



STIC Search Report

EIC 1700

STIC Database Tracking Number: 108476

TO: Kallambella M Vijayakumar
Location: CP3 9B13
Art Unit : 1751
November 24, 2003

Case Serial Number: 09/932186

From: Barba Koroma
Location: EIC 1700
CP3/4-3D62
Phone: 305-3542

barba.koroma@uspto.gov

Search Notes

Examiner Vijaykumar,

Please find attached results of the search you requested. Note that the titles of hits have been listed to help you go through the results set quickly. This is followed by a detailed printout of records.

Various components of the claimed invention as spelt out in the search request and in the claims were searched in REGISTRY and CAPLUS databases. Please note that the priority document to this case does not include indexed structures.

Please let me know if you have any questions.
Thanks.



=> file reg

FILE 'REGISTRY' ENTERED AT 17:48:31 ON 24 NOV 2003
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 23 NOV 2003 HIGHEST RN 620098-11-5
DICTIONARY FILE UPDATES: 23 NOV 2003 HIGHEST RN 620098-11-5

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> file CAPLUS

FILE 'CAPLUS' ENTERED AT 17:48:35 ON 24 NOV 2003
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FILE COVERS 1907 - 24 Nov 2003 VOL 139 ISS 22
FILE LAST UPDATED: 23 Nov 2003 (20031123/ED)

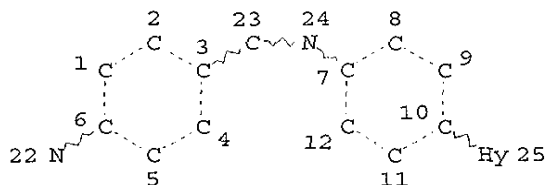
This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> D QUE

L8 (1227109)SEA FILE=CAPLUS ABB=ON PLU=ON PHOTO?
L9 (57569)SEA FILE=CAPLUS ABB=ON PLU=ON G02F00?/IC
L10 (400327)SEA FILE=CAPLUS ABB=ON PLU=ON INK? OR DYE?

KOROMA BIC1700

L11 (35715)SEA FILE=CAPLUS ABB=ON PLU=ON ELECTROOPT?
 L12 (330002)SEA FILE=CAPLUS ABB=ON PLU=ON IMAGE? OR IMAGING?
 L13 (2658)SEA FILE=CAPLUS ABB=ON PLU=ON ELECTRO? (5A) INK?
 L14 (98826)SEA FILE=CAPLUS ABB=ON PLU=ON VISUAL?
 L15 (603902)SEA FILE=CAPLUS ABB=ON PLU=ON COLOR?
 L16 (885)SEA FILE=CAPLUS ABB=ON PLU=ON MOLEC? DEVICE?
 L18 STR



NODE ATTRIBUTES:

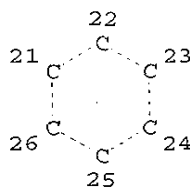
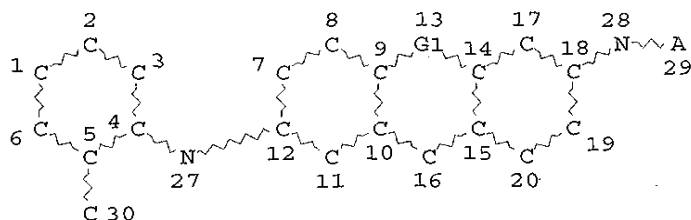
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 GGCAT IS PCY UNS AT 25
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS M1 N AT 25

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE

L23 96 SEA FILE=REGISTRY SSS FUL L18
 L26 STR



A 31

VAR G1=S/O/N/C

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 31

STEREO ATTRIBUTES: NONE

L28 335 SEA FILE=REGISTRY SSS FUL L26

KOROMA BIC1700

L29 29 SEA FILE=CAPLUS ABB=ON PLU=ON L23
L30 159 SEA FILE=CAPLUS ABB=ON PLU=ON L28
L31 188 SEA FILE=CAPLUS ABB=ON PLU=ON L29 OR L30
L32 167 SEA FILE=CAPLUS ABB=ON PLU=ON (L8 OR L9 OR L10 OR L11 OR L12
OR L13 OR L14 OR L15 OR L16) AND L31
L33 4 SEA FILE=CAPLUS ABB=ON PLU=ON L32 AND (INK? OR DYE? OR
COLOR?) AND ?ELECTRIC?
L34 161 SEA FILE=CAPLUS ABB=ON PLU=ON L32 AND (INK? OR DYE? OR
COLOR?)
L35 16 SEA FILE=CAPLUS ABB=ON PLU=ON L34 AND PHOTO?
L36 18 SEA FILE=CAPLUS ABB=ON PLU=ON L33 OR L35

=> d ti 1-18 l36

L36 ANSWER 1 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
TI First hyperpolarizability in proton-transfer benzoxazoles: computer-aided design, synthesis and study of a new model compound

L36 ANSWER 2 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
TI Fluoran compound and **color** recording material

L36 ANSWER 3 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
TI Heat-fixable leuco **dye**-containing **photoimaging** material

L36 ANSWER 4 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Photothermographic** material containing thermal fixable leuco **dye**

L36 ANSWER 5 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
TI Thermal transfer **ink** sheet containing thermochromic materials

L36 ANSWER 6 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
TI Recording medium using leuco **dye**

L36 ANSWER 7 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
TI Thermosensitive recording sheet

L36 ANSWER 8 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
TI Fluoran compounds

L36 ANSWER 9 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
TI Dichroic pigments for **color** liquid crystal display devices

L36 ANSWER 10 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
TI Fluoran **color** formers

L36 ANSWER 11 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
TI Fluoran derivatives and their use in recording systems

L36 ANSWER 12 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

TI Sensitization of free-radical **photographic** materials by optical development

L36 ANSWER 13 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

TI Sensitization of free-radical sensitive materials by optical development. Relation between optical development characteristics and the molecular structure of color former

L36 ANSWER 14 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

TI Phototropic photosensitive compositions containing fluoran colorformer

L36 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

TI Carbonylic halides as activators for **phototropic** compositions

L36 ANSWER 16 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

TI Energy beam recording materials

L36 ANSWER 17 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

TI Optical and electron beam recording material

L36 ANSWER 18 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

TI Some classes of novel supersensitizers for 2,2'-cyanines

=> d ibib abs hitstr ind total l36

L36 ANSWER 1 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:777726 CAPLUS

DOCUMENT NUMBER: 136:87218

TITLE: First hyperpolarizability in proton-transfer benzoxazoles: computer-aided design, synthesis and study of a new model compound

AUTHOR(S): Hillebrand, Sandro; Segala, Maximiliano; Buckup, Tiago; Correia, Ricardo R. B.; Horowitz, Flavio; Stefani, Valter

CORPORATE SOURCE: Laboratorio de Novos Materiais Organicos, Departamento de Quimica Organica, Instituto de Quimica da Universidade Federal do Rio Grande do Sul, Porto Alegre, RS, 91501-970, Brazil

SOURCE: Chemical Physics (2001), 273(1), 1-10
CODEN: CMPHC2; ISSN: 0301-0104

PUBLISHER: Elsevier Science B.V.

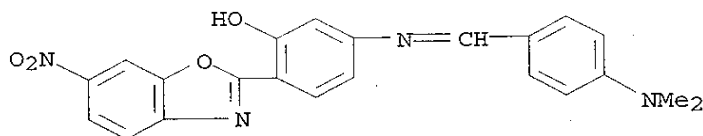
DOCUMENT TYPE: Journal

LANGUAGE: English

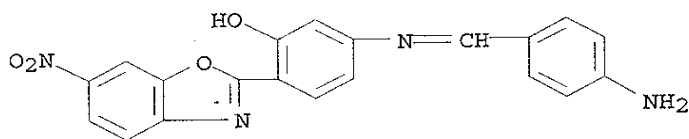
AB With regard to second-order nonlinear optics (NLO) applications, a new class of 2-(2-hydroxyphenyl)benzoxazoles (HBO) was designed for a combination of high first hyperpolarizability (β) with good **photothermal** stability, in association with a fast excited state intramol. proton transfer (ESIPT) mechanism. Semi-empirical optimization of mol. structures and ab initio calcns. of dipole moments were performed. Clear evidence was found that conditions such as conjugation efficiency

and electron donor/acceptor strength cannot be evaluated sep., due to structural changes in mol. spatial distribution. Exptl., a new fluorescent mol. of the HBO family, 2-(4-amino-2-hydroxyphenyl)-6-nitrobenzoxazole (BO6), was synthesized, purified, and characterized, including solvent environments of distinct polarities. Hyper-Rayleigh scattering, UV-visible absorption and emission spectroscopy, differential scanning calorimetry, and thermogravimetric anal. of BO6 show a significant β ($213.4 \pm 25.7 + 10^{-30}$ esu in acetone, at 1064 nm) and thermal stability up to 270°C. Such results, in this first study of ESIPT dyes for second-order NLO to our best knowledge, indicate that the HBO family well deserves further attention towards promising application materials.

IT 387334-23-8 387334-30-7
 RL: PRP (Properties); TEM (Technical or engineered material use); PRP (Properties); USES (Uses)
 (calculated first hyperpolarizability in proton-transfer benzoxazole fluorescent dyes)
 RN 387334-23-8 CAPLUS
 CN Phenol, 5-[[[4-(dimethylamino)phenyl]methylene]amino]-2-(6-nitro-2-benzoxazolyl)- (9CI) (CA INDEX NAME)



RN 387334-30-7 CAPLUS
 CN Phenol, 5-[[[4-aminophenyl]methylene]amino]-2-(6-nitro-2-benzoxazolyl)- (9CI) (CA INDEX NAME)



CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
 Section cross-reference(s): 28, 73
 ST hydroxyphenylbenzoxazole fluorescent dye prepn
 hyperpolarizability proton transfer
 IT Light scattering
 (by proton-transfer benzoxazole fluorescent dyes)
 IT Fluorescent dyes
 (calculated first hyperpolarizability in proton-transfer benzoxazole fluorescent dyes)
 IT Hyperpolarizability

(first; of proton-transfer benzoxazole fluorescent dyes)

IT Proton transfer
(intramol., excited state; in benzoxazole fluorescent dyes)

IT Dipole moment
Fluorescence
Optical hyperpolarizability
Thermal stability
UV and visible spectra
(of proton-transfer benzoxazole fluorescent dyes)

IT Solvent polarity effect
(on absorption and emission spectra of proton-transfer benzoxazole fluorescent dye)

IT Bond angle
(torsional; in proton-transfer benzoxazole fluorescent dyes)

IT 835-64-3 13459-18-2 158548-84-6 387334-13-6 387334-15-8
387334-16-9 387334-20-5 387334-21-6 387334-22-7 387334-23-8
387334-24-9 387334-25-0 387334-26-1 387334-27-2 387334-28-3
387334-29-4 387334-30-7
RL: PRP (Properties); TEM (Technical or engineered material use); PRP (Properties); USES (Uses)
(calculated first hyperpolarizability in proton-transfer benzoxazole fluorescent dyes)

IT 387334-18-1, 2-(4-Amino-2-hydroxyphenyl)-6-nitrobenzoxazole
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PRP (Properties); USES (Uses)
(preparation and first hyperpolarizability of proton-transfer benzoxazole fluorescent dye)

IT 67-56-1, Methanol, uses 67-66-3, Chloroform, uses 108-88-3, Toluene, uses 109-99-9, THF, uses 123-91-1, Dioxane, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent effect on absorption and emission spectra of proton-transfer benzoxazole fluorescent dye)

IT 65-49-6, 4-Aminosalicylic acid 121-88-0, 5-Nitro-2-aminophenol 1516-60-5, 4-Nitrophenyl azide
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; preparation and first hyperpolarizability of proton-transfer benzoxazole fluorescent dye)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 2 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1995:275693 CAPLUS

DOCUMENT NUMBER: 122:147416

TITLE: Fluoran compound and color recording material

INVENTOR(S): Tsubota, Harumitsu; Ishida, Hidekazu; Kawai, Hajime

PATENT ASSIGNEE(S): Yamada Chem Co, Japan

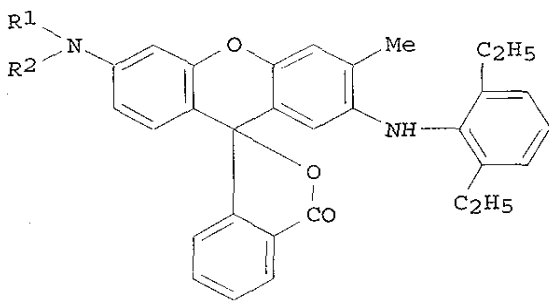
SOURCE: Jpn. Kokai Tokyo Koho, 5 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06286302	A2	19941011	JP 1993-112037	19930402 ✓
PRIORITY APPLN. INFO.:			JP 1993-112037	19930402
OTHER SOURCE(S):		MARPAT 122:147416		
GI				



I

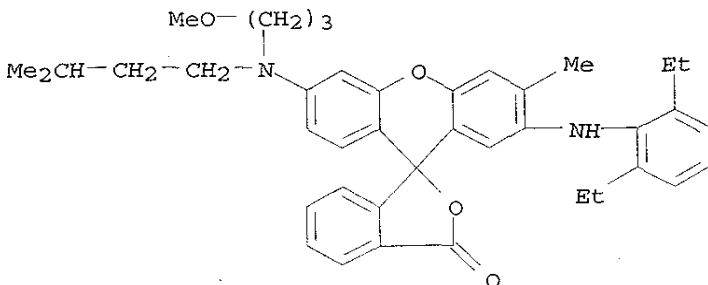
AB The compound is I (R1 = alkoxyated C2-8 alkyl; R2 = C1-8 alkyl). The color recording material containing I is also claimed. The recording method may be pressure, heat, elec., etc. The compound gives black images with light and moisture resistance.

IT 160850-16-8P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluoran compound-containing color recording material for black image)

RN 160850-16-8 CAPLUS

CN Spiro[isobenzofuran-1(3H), 9'-[9H]xanthen]-3-one, 2'-[(2,6-diethylphenyl)amino]-6'-[(3-methoxypropyl)(3-methylbutyl)amino]-3'-methyl-(9CI) (CA INDEX NAME)



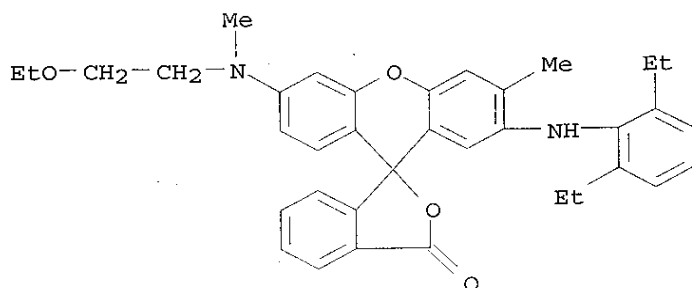
KOROMA EIC1700

IT 160850-17-9 160850-18-0 160850-19-1

RL: TEM (Technical or engineered material use); USES (Uses)
(fluoran compound-containing color recording material for black image)

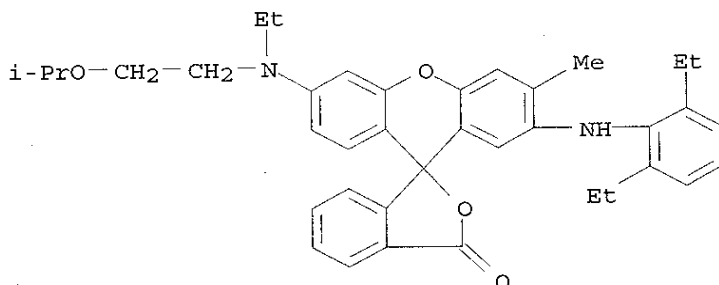
RN 160850-17-9 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2,6-diethylphenyl)amino]-6'-[(2-ethoxyethyl)methylamino]-3'-methyl- (9CI) (CA INDEX NAME)



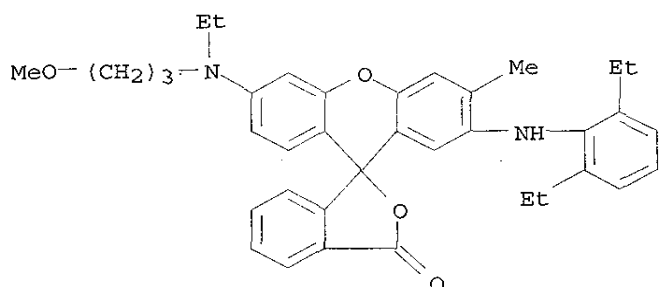
RN 160850-18-0 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2,6-diethylphenyl)amino]-6'-[ethyl[2-(1-methylethoxy)ethyl]amino]-3'-methyl- (9CI) (CA INDEX NAME)



RN 160850-19-1 CAPLUS

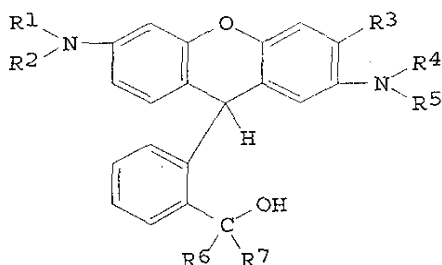
CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2,6-diethylphenyl)amino]-6'-[ethyl(3-methoxypropyl)amino]-3'-methyl- (9CI) (CA INDEX NAME)



- IC ICM B41M005-145
ICS B41M005-30; C09B011-28
- CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST fluoran color recording material
- IT Printing, impact
(fluoran compound-containing color recording material for black image)
- IT Printing, nonimpact
(thermal, fluoran compound-containing color recording material for black image)
- IT 160850-16-8P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluoran compound-containing color recording material for black image)
- IT 160850-17-9 160850-18-0 160850-19-1
RL: TEM (Technical or engineered material use); USES (Uses)
(fluoran compound-containing color recording material for black image)
- IT 160850-21-5P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(in fluoran compound preparation)
- IT 160850-20-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(in fluoran compound preparation)
- IT 579-66-8, 2,6-Diethylaniline
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with acetic anhydride)
- IT 16665-89-7P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reaction with bromomethylanisole)
- IT 14804-31-0, 4-Bromo-2-methylanisole
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with diethylacetoanilide)

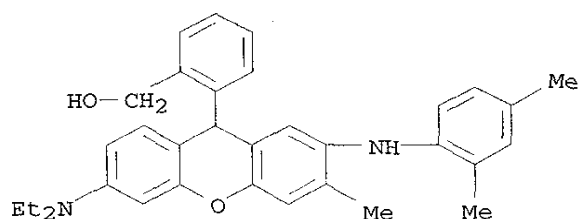
ACCESSION NUMBER: 1994:496012 CAPLUS
DOCUMENT NUMBER: 121:96012
TITLE: Heat-fixable leuco dye-containing
photoimaging material
INVENTOR(S): Yanagihara, Naoto
PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05232622	A2	19930910	JP 1992-32031	19920219
PRIORITY APPLN. INFO.: GI			JP 1992-32031	19920219



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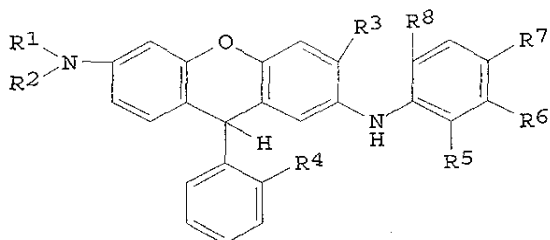
- AB In the title photoimaging material having on its support a coating layer containing a reducing agent and microcapsules enclosing a leuco dye capable of giving color on being oxidized, a photo-oxidizing agent and optionally an antioxidant, the leuco dye is a xanthene derivative I (R1, R2 = H, alkyl, aralkyl, aryl; R3 = H, alkyl, alkoxy, aryl, halo; R4-6 = H, alkyl, aryl; R1 with R2, R4 with R5 may joint to form unsatd. ring or heterocycle). The photoimaging material is free of fog before using and can give images with high-d. and superior stability.
- IT 151194-98-8, 9-(2-Hydroxymethylphenyl)-2-(2,4-dimethylphenyl)amino-3-methyl-6-diethylaminoxanthene
RL: USES (Uses)
(heat-fixable leuco dye, photoimaging material using)
- RN 151194-98-8 CAPLUS
- CN Benzenemethanol, 2-[6-(diethylamino)-2-[(2,4-dimethylphenyl)amino]-3-methyl-9H-xanthen-9-yl]- (9CI) (CA INDEX NAME)



IC ICM G03C001-675
ICS G03C005-56; G03F007-004; G03F007-028
CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST heat fixable leuco dye photoimaging material
IT Photoimaging compositions and processes
(heat-fixable leuco dye using)
IT 151194-98-8, 9-(2-Hydroxymethylphenyl)-2-(2,4-dimethylphenyl)amino-3-methyl-6-diethylaminoxanthene 151194-99-9, 9-(2-Hydroxymethylphenyl)-2-(3-trifluoromethylphenyl)amino-6-diethylaminoxanthene
RL: USES (Uses)
(heat-fixable leuco dye, photoimaging material using)

L36 ANSWER 4 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:335057 CAPLUS
DOCUMENT NUMBER: 120:335057
TITLE: Photothermographic material containing thermal fixable leuco dye
INVENTOR(S): Yanagihara, Naoto; Wachi, Naotaka; Endo, Toshiaki
PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05127302	A2	19930525	JP 1991-311556	19911031
PRIORITY APPLN. INFO.:			JP 1991-311556	19911031
OTHER SOURCE(S):			MARPAT 120:335057	
GI				



I

AB In the title photothermog. material having on its support a coating layer containing at least a reducing agent and microcapsules which enclose a photo oxidizing agent and a leuco dye capable of giving color on being oxidized, the leuco dye is a xanthene I (R1 = H, R2; R2 = alkyl, alkenyl, alkynyl, aryl; R3 = alkyl, aryl, halo; R4 = alkyl, substituted carbonyl; R5 = Me, halo; R6-8 = H, Me, halo; R1 and R2 may joint to form a unsatd. ring or a heterocycle; xanthene and 9-position substituted benzene rings may be further substituted). The material can give images with high-d. and superior stable black hue.

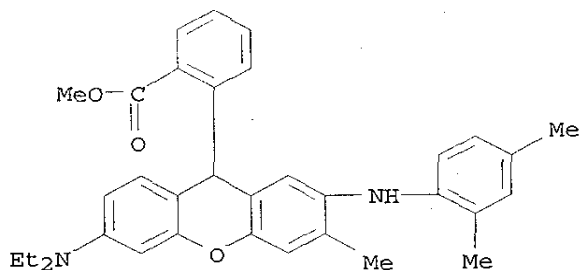
IT 155287-73-3, 9-(2-Methoxycarbonylphenyl)-2-(2,4-dimethylphenyl)amino-3-methyl-6-diethylaminoxanthene 155287-74-4, 9-(2-Diphenylmethyloxycarbonylphenyl)-2-(2,4-dimethylphenyl)amino-3-methyl-6-diethylaminoxanthene 155287-75-5, 9-(2-Methoxycarbonylphenyl)-2-(2,4,6-trimethylphenyl)amino-3-methyl-6-diethylaminoxanthene

RL: USES (Uses)

(leuco dye, for photothermog. material)

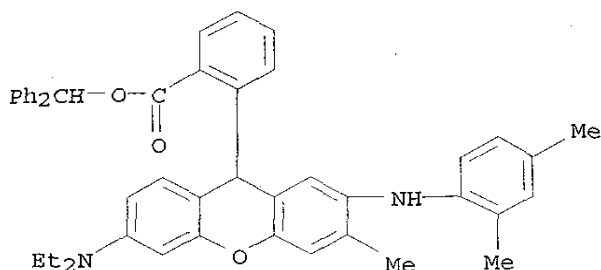
RN 155287-73-3 CAPLUS

CN Benzoic acid, 2-[6-(diethylamino)-2-[(2,4-dimethylphenyl)amino]-3-methyl-9H-xanthen-9-yl]-, methyl ester (9CI) (CA INDEX NAME)

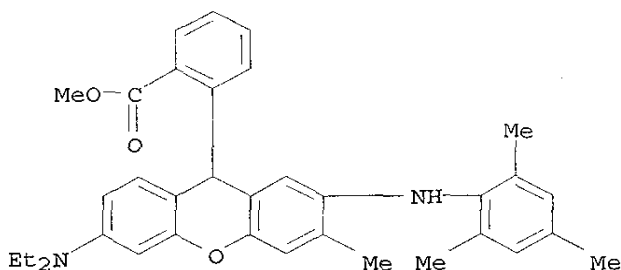


RN 155287-74-4 CAPLUS

CN Benzoic acid, 2-[6-(diethylamino)-2-[(2,4-dimethylphenyl)amino]-3-methyl-9H-xanthen-9-yl]-, diphenylmethyl ester (9CI) (CA INDEX NAME)



RN 155287-75-5 CAPLUS
 CN Benzoic acid, 2-[6-(diethylamino)-3-methyl-2-[(2,4,6-trimethylphenyl)amino]-9H-xanthen-9-yl]-, methyl ester (9CI) (CA INDEX NAME)



IC ICM G03C001-675
 CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST photothermog material leuco dye; xanthene
 photothermog material
 IT Photothermographic copying
 (material for, amino xanthene derivative leuco dye using)
 IT 155287-73-3, 9-(2-Methoxycarbonylphenyl)-2-(2,4-dimethylphenyl)amino-3-methyl-6-diethylaminoxanthene 155287-74-4, 9-(2-Diphenylmethyloxycarbonylphenyl)-2-(2,4-dimethylphenyl)amino-3-methyl-6-diethylaminoxanthene 155287-75-5, 9-(2-Methoxycarbonylphenyl)-2-(2,4,6-trimethylphenyl)amino-3-methyl-6-diethylaminoxanthene
 RL: USES (Uses)
 (leuco dye, for photothermog. material)

L36 ANSWER 5 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1993:505966 CAPLUS
 DOCUMENT NUMBER: 119:105966
 TITLE: Thermal transfer ink sheet containing thermochromic materials

KOROMA EIC1700

INVENTOR(S): Goto, Hiroshi; Kawamura, Eiichi
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04314584	A2	19921105	JP 1991-114091	19910418
PRIORITY APPLN. INFO.:			JP 1990-326297	19901128
			JP 1991-48982	19910221

AB In the title ink sheet based on a thermal transfer ink layer coated on a heat-resistant support, the above ink layer is obtained with an ink based on microcapsules containing either thermally bleachable or thermally-coloring materials. A thermally-bleachable ink sheet uses microcapsules containing at least an electron-donor color former, an electron-acceptor compound, and a compound capable of adjusting the color-changing temperature. A thermally coloring ink sheet uses microcapsules containing in addition to the above 3 compds., a low-volatility solvent. The ink sheet shows reversible color change with temperature change as well as good durability.

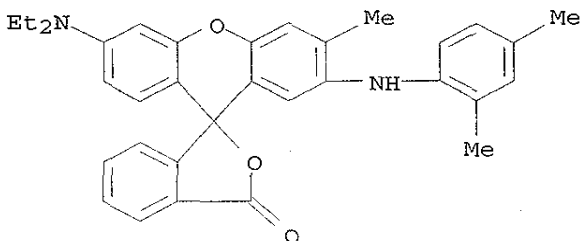
IT 36431-22-8

RL: USES (Uses)

(color former, thermal transfer ink sheet containing)

RN 36431-22-8 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 6'-(diethylamino)-2'-[(2,4-dimethylphenyl)amino]-3'-methyl- (9CI) (CA INDEX NAME)



IC ICM B41M005-26

ICS B41M005-28; B41M005-30

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST thermal transfer ink sheet thermochromic; copyproof thermal transfer sheet

IT Printing, nonimpact

(thermal transfer sheet for, photocopy-proof)

IT Thermographic copying
 (transfer, materials for, thermochromic material-containing)
 IT 80-05-7, uses 94-13-3, p-Hydroxybenzoic acid propyl ester 94-18-8,
 p-Hydroxybenzoic acid benzyl ester 99-76-3, p-Hydroxybenzoic acid methyl
 ester 1166-52-5 10361-12-3
 RL: USES (Uses)
 (color developer, thermal transfer ink sheet
 containing)
 IT 34342-67-1 36431-22-8 89331-94-2 149309-77-3
 RL: USES (Uses)
 (color former, thermal transfer ink sheet containing)

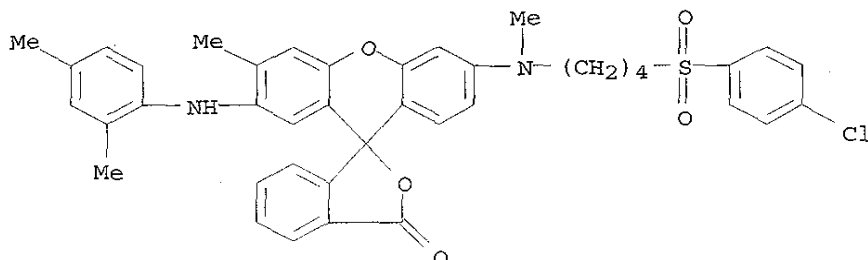
L36 ANSWER 6 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1993:30090 CAPLUS
 DOCUMENT NUMBER: 118:30090
 TITLE: Recording medium using leuco dye
 INVENTOR(S): Araki, Katsumi; Takashima, Masanobu; Azuma, Shunsaku;
 Satomura, Masato
 PATENT ASSIGNEE(S): Fuji Shashin Film K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04085075	A2	19920318	JP 1990-201848	19900730
PRIORITY APPLN. INFO.:			JP 1990-201848	19900730

GI For diagram(s), see printed CA Issue.
 AB In the title recording medium (heat-sensitive, pressure-sensitive,
 photothermal, etc.) utilizing the color rendered upon
 contact between an electron-donor leuco dye and an
 electron-acceptor compound, the leuco dye is a fluoran compound (I)
 [R1 = H, alkyl, acyl; R2 = H, alkyl, acyl, alkoxy, halo; R3 = H, alkyl,
 aryl, acyl; R4 = H, alkyl, aryl, alkoxy, aryloxy, halo, alkylthio,
 arylthio, amine, CN, NO2, acyl, acyloxy; R5 = alkyl, aryl, heterocyclyl;
 ring A is an aromatic ring; p = 1-5; x = (L^o)a(L1)b(L2)c(L3)d(L4)e(L5)
 f(L6)g(L7)h (L0,L2,L4,L6 = O, NH, NHCO, CONH, NHSO2, SO2NH, CO2, OCO,
 NHCONH, OCONH, NHCO2, S, SO, SO2, CO; L1,L3,L5,L7 = alkylene, aralkylene,
 arylene; a-h = 0, 1 (b - c + d - e + f - g = 0)]. The recording material
 shows good color resolution, white background retention, good
 coloring material preservation, and good resistance to other
 chems.

IT 144916-72-3
 RL: USES (Uses)
 (leuco dye, pressure- and/or heat-sensitive recording medium
 using)
 RN 144916-72-3 CAPLUS
 CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 6'-[[4-[(4-
 chlorophenyl)sulfonyl]butyl]methylamino]-2'-[(2,4-dimethylphenyl)amino]-3'-

methyl- (9CI) (CA INDEX NAME)



IC ICM B41M005-145
ICS B41M005-30
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST recording medium heat pressure fluoran
IT Copying paper
(leuco dye for)
IT Thermographic copying
(materials for, leuco dye for)
IT Recording materials
(impact, leuco dye for)
IT Printing, nonimpact
(thermal, material for, leuco dye for)
IT 144916-71-2 144916-72-3 144916-73-4 144916-74-5
RL: USES (Uses)
(leuco dye, pressure- and/or heat-sensitive recording medium using)

L36 ANSWER 7 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1987:129443 CAPLUS
DOCUMENT NUMBER: 106:129443
TITLE: Thermosensitive recording sheet
INVENTOR(S): Satake, Toshimi; Minami, Toshiaki; Nagai, Tomoaki; Fujimura, Fumio
PATENT ASSIGNEE(S): Jujo Paper Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 50 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 189760	A1	19860806	EP 1986-100179	19860108
EP 189760	B1	19890719		

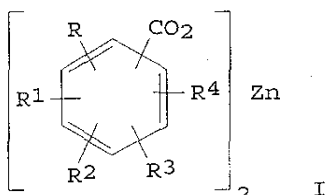
R: BE, DE, FR, GB, IT, SE

JP 61160293	A2	19860719	JP 1985-1868	19850109
JP 04017157	B4	19920325		
JP 61164884	A2	19860725	JP 1985-6515	19850117
JP 03074638	B4	19911127		
JP 61185484	A2	19860819	JP 1985-25739	19850213
JP 04017158	B4	19920325		

PRIORITY APPLN. INFO.:

JP 1985-1868	19850109
JP 1985-6515	19850117
JP 1985-25739	19850213

GI



AB A thermosensitive recording sheet has a heat-sensitive color-forming layer containing a basic leuco dye and an organic color developer consisting at least partly of a halogen-substituted benzoic acid Zn salt (I; R = halogen; R1 = H, halogen; R2, R3, R4 = H, OH, CN, NO2, alkyl, cycloalkyl, alkoxy). The thermosensitive recording sheet thus prepared has excellent thermal response, resistance to soiling by oily substances, such as hair-dressing agents or oils and fats, and storage stability. Thus, a dye dispersion prepared from crystal violet lactone, 10% poly(vinyl alc.), and H2O, a color developer dispersion prepared from Zn p-fluorobenzoate, 10% poly(vinyl alc.), and H2O, and a 50% kaolin dispersion were mixed, coated on a paper support, dried, and calendered to give a thermosensitive recording sheet which gave, upon thermal recording, an image of d. 1.17 and excellent stability.

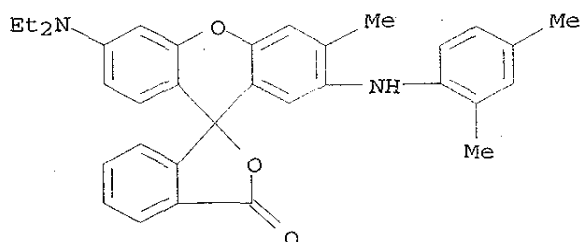
IT 36431-22-8

RL: USES (Uses)

(heat-sensitive color-forming compns. containing halogen-substituted benzoic acid zinc salt developer and, for thermal recording materials)

RN 36431-22-8 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 6'-(diethylamino)-2'-[(2,4-dimethylphenyl)amino]-3'-methyl- (9CI) (CA INDEX NAME)



- IC ICM B41M005-26
ICS B41M005-12
- CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST thermal recording zinc fluorobenzoate developer
- IT Printing, nonimpact
(thermal, heat-sensitive color-forming compns. containing leuco dye and halogen-substituted benzoic acid zinc salt developer for)
- IT 1552-42-7, Crystal violet lactone 29512-49-0 36431-22-8
55250-84-5 55772-72-0, 3-Pyrrolidino-6-methyl-7-anilinofluoran
55773-64-3, 3-Piperidino-6-methyl-7-anilinofluoran 59129-79-2
68134-61-2 68506-98-9 70516-41-5 82137-81-3, 3-Dibutylamino-7-(o-chloroanilino)fluoran
RL: USES (Uses)
(heat-sensitive color-forming compns. containing halogen-substituted benzoic acid zinc salt developer and, for thermal recording materials)
- IT 79448-62-7, Zinc p-chlorobenzoate 106897-56-7, Zinc p-fluorobenzoate
106897-57-8, Zinc p-bromobenzoate 106897-58-9, Zinc m-chlorobenzoate
106897-59-0, Zinc 3,4-dichlorobenzoate 106909-21-1, Zinc p-iodobenzoate
RL: USES (Uses)
(heat-sensitive color-forming compns. containing leuco dye and, for thermal recording materials)
- IT 27294-37-7
RL: USES (Uses)
(heat-sensitive color-photocompns. containing leuco dye and halogen-substituted benzoic acid zinc salt developer and, for thermal recording materials)

L36 ANSWER 8 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1986:470193 CAPLUS

DOCUMENT NUMBER: 105:70193

TITLE: Fluoran compounds

INVENTOR(S): Anzai, Mitsutoshi; Yamaguchi, Masahiko; Wakasugi, Kazuy Yuki; Suzuka, Susumu; Gonda, Michihiro; Abe, Toshiyuki; Kikkawa, Katsumasa; Kanasugi, Mikiko

PATENT ASSIGNEE(S): Hodogaya Chemical Co., Ltd., Japan

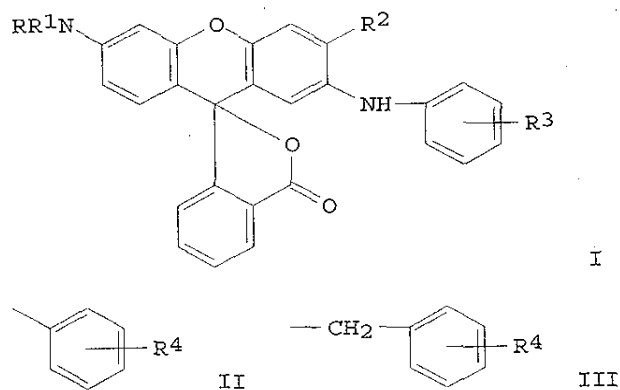
SOURCE: Eur. Pat. Appl., 39 pp.

CODEN: EPXXDW

KOROMA EIC1700

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 156250	A2	19851002	EP 1985-102892	19850313
EP 156250	A3	19890208		
EP 156250	B1	19940727		
R: DE, FR, GB				
JP 60199065	A2	19851008	JP 1984-55285	19840324
JP 60208359	A2	19851019	JP 1984-65096	19840403
JP 03076346	B4	19911205		
JP 60209586	A2	19851022	JP 1984-65095	19840403
US 4612558	A	19860916	US 1985-710991	19850312
PRIORITY APPLN. INFO.:			JP 1984-55285	19840324
			JP 1984-65095	19840403
			JP 1984-65096	19840403
OTHER SOURCE(S):			CASREACT 105:70193	
GI				



AB A novel fluoran compound having the formula I [R,R1 = H, C1-8 alkyl, cyclohexyl, Ph, or benzyl; R2 = II, III, or (CH2)_nOR5 where R4 = H, halogen, or C1-8 alkyl; R5 = cycloalkyl, Ph, benzyl, or C1-8 alkyl; n = 1-8; R3 = H, halogen, lower fluoroalkyl, acyl, alkoxy, alkoxyalkyl, or C1-8 alkyl] is used as a color former in a heat-sensitive, electrothermal, or photosensitive recording sheet to provide dark black images upon development with an acidic substance with improved resistances to moisture and oils. Thus, a dispersion (A) comprised of 2-anilino-3-ethoxyethyl-6-diethylaminofluoran 4, 10% poly(vinyl alc.) 34, and a 5% solution of San Nopco 1407 (a defoaming agent) 2 parts, a dispersion (B) comprised of bisphenol A 6, 10% poly(vinyl alc.) 20, and H2O 14 parts, and a dispersion (C) comprised of Al(OH)3 10, 10%

poly(vinyl alc.) 20, and H₂O 10 parts were prepared, mixed in a A:B:C:H₂O ratio of 3:9:5:3, coated on a paper support at 5 g/m² (dry basis), and dried to give a thermal recording paper which gave images having a humidity discoloration resistance of 102 and an oil resistance of 45 vs. 94 and 39, resp., for a control using 2-anilino-3-methyl-6-diethylaminofluoran.

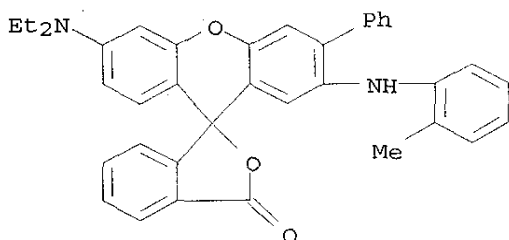
IT 101510-51-4 102231-59-4 102231-70-9

RL: USES (Uses)

(color former, for thermal recording materials)

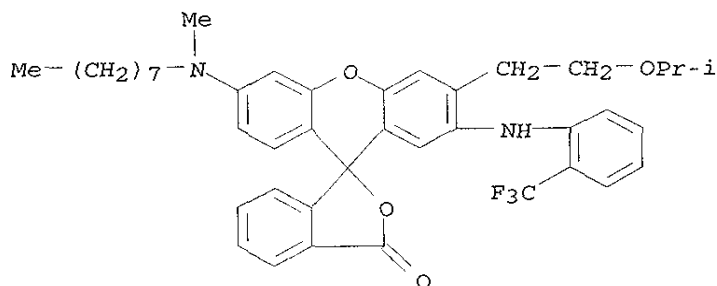
RN 101510-51-4 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 6'-(diethylamino)-2'-[(2-methylphenyl)amino]-3'-phenyl- (9CI) (CA INDEX NAME)



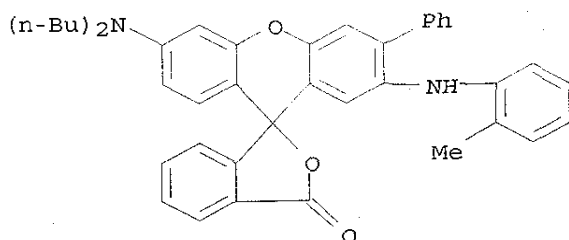
RN 102231-59-4 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 3'-[2-(1-methylethoxy)ethyl]-6'-(methyloctylamino)-2'-[[2-(trifluoromethyl)phenyl]amino]- (9CI) (CA INDEX NAME)



RN 102231-70-9 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 6'-(dibutylamino)-2'-[(2-methylphenyl)amino]-3'-phenyl- (9CI) (CA INDEX NAME)



IC ICM C07D493-10
ICS B41M005-18
ICI C07D493-10, C07D311-00, C07D307-00
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 28
ST fluoran phenylaminodialkylamino thermal recording material; electrothermal recording material fluoran; **photosensitive** recording material fluoran
IT **Photoduplication**
(phenylaminodialkylaminofluoran color formers for)
IT Recording materials
(electrothermal, phenylaminodialkylaminofluoran color formers for)
IT Recording materials
(thermal, phenylaminodialkylaminofluoran color formers for)
IT 99740-47-3 99740-52-0 100551-38-0 100551-39-1 100551-40-4
100551-41-5 100551-42-6 100551-43-7 100551-44-8 100551-45-9
100578-76-5 101510-38-7 101510-39-8 101510-40-1 101510-41-2
101510-45-6 101510-46-7 101510-47-8 101510-48-9 101510-49-0
101510-50-3 **101510-51-4** 101510-55-8 101510-56-9
101528-33-0 102231-52-7 102231-53-8 102231-54-9 102231-55-0
102231-56-1 102231-57-2 102231-58-3 **102231-59-4**
102231-60-7 102231-61-8 102231-62-9 102231-63-0 102231-64-1
102231-65-2 102231-66-3 102231-67-4 102231-68-5 102231-69-6
102231-70-9 102231-71-0 102231-72-1 102231-73-2
102231-74-3 102231-75-4 102231-76-5 102231-77-6 102231-78-7
102231-79-8 102231-80-1 102231-81-2 102231-82-3 102231-83-4
102231-84-5 102231-85-6 102231-86-7 102231-87-8 102231-88-9
102231-89-0 102231-90-3 102231-91-4 102231-92-5 102231-93-6
102259-20-1 102259-21-2 102259-22-3
RL: USES (Uses)
(color former, for thermal recording materials)
IT 80-05-7, uses and miscellaneous 9002-89-5 21645-51-2, uses and miscellaneous
RL: USES (Uses)
(heat-sensitive color-forming compns. containing phenylaminodialkylaminofluoran color former and, for thermal recording materials)
IT 5809-23-4 54574-82-2 55109-91-6 91458-42-3 99740-57-5

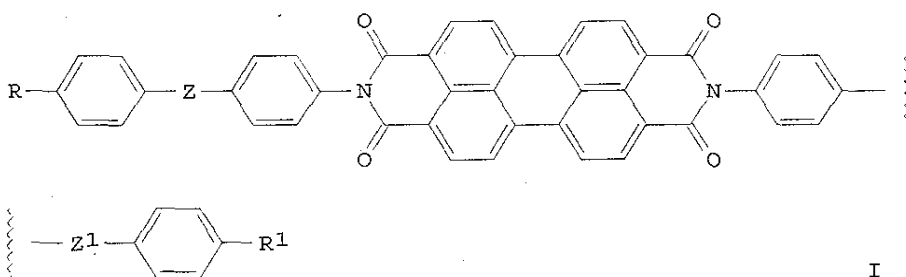
100640-95-7 100640-96-8 102231-94-7

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of fluoran color former for thermal recording materials)

L36 ANSWER 9 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1985:624495 CAPLUS
DOCUMENT NUMBER: 103:224495
TITLE: Dichroic pigments for color liquid crystal display devices
PATENT ASSIGNEE(S): Alps Electric Co., Ltd., Japan; Sanyo Color Works, Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60023452	A2	19850206	JP 1983-130364	19830719
JP 61016788	B4	19860502		
US 4607097	A	19860819	US 1984-616722	19840604
PRIORITY APPLN. INFO.:			JP 1983-98057	19830603
			JP 1983-130364	19830719
			JP 1983-130365	19830719
			JP 1983-132910	19830722
			JP 1983-133581	19830723

GI



AB Dichroic pigments I [R, R1 = alkyl, alkoxy, NR2R3; R2, R3 = H, alkyl; Z, Z1 = N:CH(Z2Z3)n, CH:N(Z2Z3)n; Z2 = 1,4-C6H4, 1,4-C10H6; Z3 = N:N, CH:N, N(O):N; n = 0-2] are contained in the liquid crystal compns. The pigments have a high dichroic ratio, a large adsorption coefficient, and solubility in liquid

crystals; hence they are especially useful in guest-host color liquid crystal display devices. Thus, I [R, R1 = NBu2; Z = N:CH; Z1 = CH:N] was dissolved in a cyanobiphenyl liquid crystal composition of pos. dielec. anisotropy and packed in a cell (homogeneous alignment) to give a guest-host liquid crystal display device. The maximum absorption, solubility,

and

dichroic ratio of the pigment were 500 nm, 2.0%, and 14.3, resp.

IT 99290-53-6 99290-55-8

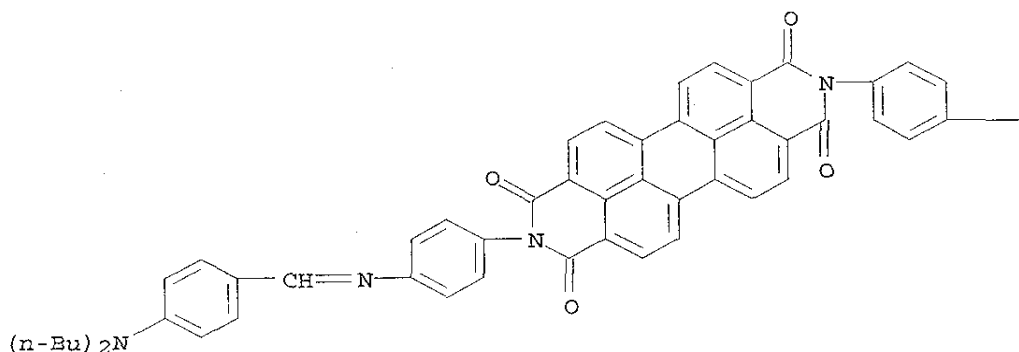
RL: USES (Uses)

(guest-host liquid crystal color display devices containing)

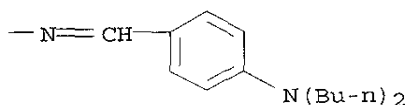
RN 99290-53-6 CAPLUS

CN Anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-1,3,8,10(2H,9H)-tetrone, 2,9-bis[4-[[[4-(dibutylamino)phenyl]methylene]amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



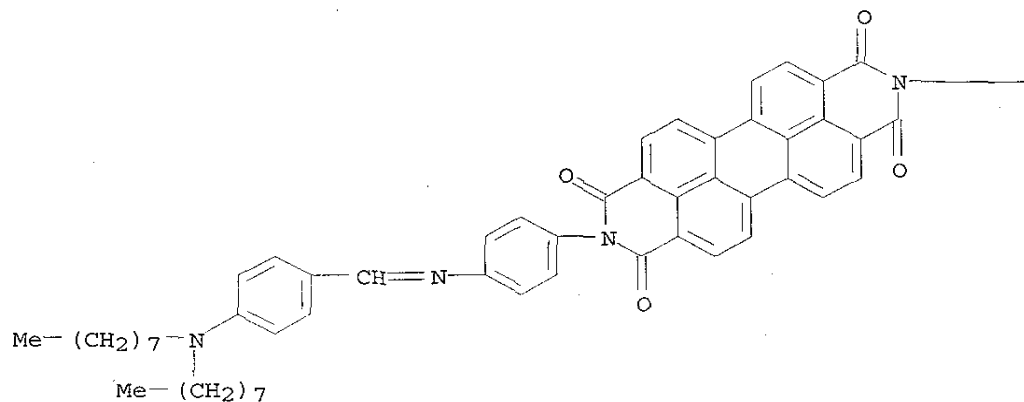
PAGE 1-B



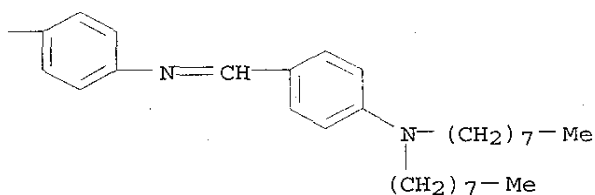
RN 99290-55-8 CAPLUS

CN Anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-1,3,8,10(2H,9H)-tetrone, 2,9-bis[4-[[[4-(dioctylamino)phenyl]methylene]amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C09B055-00
ICS C09K019-60
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST dichroic pigment liq crystal display; guest host liq crystal dye ; perylene azo pigment liq crystal
IT Optical imaging devices
(electro-, guest-host, perylene azo dichroic pigments for)
IT 99290-53-6 99290-54-7 99290-55-8 99300-37-5
RL: USES (Uses)
(guest-host liquid crystal color display devices containing)
IT 28804-96-8D, derivs.
RL: USES (Uses)
(liquid crystal compns. containing perylene azo dichroic pigment and, for guest-host electrooptical color display devices)

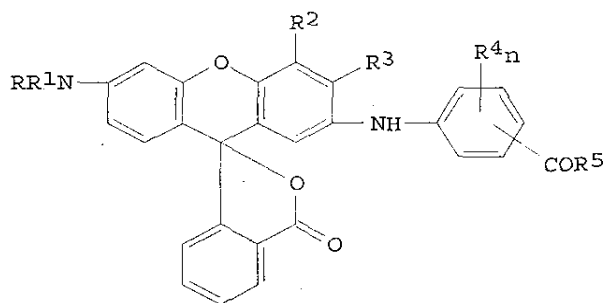
L36 ANSWER 10 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1984:69867 CAPLUS

KOROMA EIC1700

DOCUMENT NUMBER: 100:69867
 TITLE: Fluoran color formers
 PATENT ASSIGNEE(S): Kanzaki Paper Mfg. Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58147457	A2	19830902	JP 1982-31465	19820226
US 4524373	A	19850618	US 1983-467286	19830217
EP 89752	A2	19830928	EP 1983-300943	19830223
EP 89752	A3	19850626		
EP 89752	B1	19880420		
R: CH, DE, FR, GB, LI				
PRIORITY APPLN. INFO.:			JP 1982-30058	19820224
			JP 1982-31465	19820226
			JP 1982-31543	19820227
			JP 1982-64231	19820416
			JP 1982-67632	19820421
			JP 1983-67632	19820421
			JP 1982-76972	19820506
			JP 1982-178144	19821008

GI



I

AB Fluorans I (R, R1 = C1-12 alkyl, C7-9 aralkyl; R2 = H, halogen, C1-4 alkyl, C1-2 alkoxy; R3 = H, halogen, C1-4 alkyl, excluding R2 = R3 = H; R4 = halogen, C1-4 alkyl, C1-2 alkoxy; R5 = C1-18 alkyl, substituted or unsubstituted aryl; n = 0-4) useful in pressure-, heat-, and photosensitive recording media were prepared Thus, 2-(4-diethylamino-2-hydroxybenzoyl)benzoic acid [5809-23-4] was treated with 4-acetyl-4'-methoxy-3'-methyldiphenylamine [88429-18-9] in concentrated

H2SO4 at room temperature for 24 h to give 85% 7-(p-acetylanilino)-3-diethylamino-5-methylfluoran [88429-44-1], black on silica gel.

IT 88429-46-3 88429-47-4 88429-51-0

88430-41-5 88697-02-3 88697-03-4

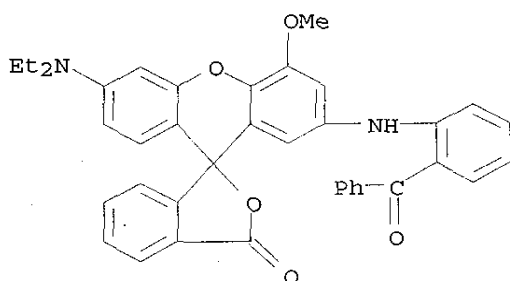
88697-04-5

RL: USES (Uses)

(color formers, for recording materials, manufacture of)

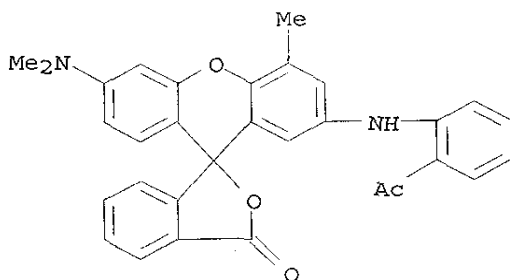
RN 88429-46-3 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2-benzoylphenyl)amino]-6'-(diethylamino)-4'-methoxy- (9CI) (CA INDEX NAME)



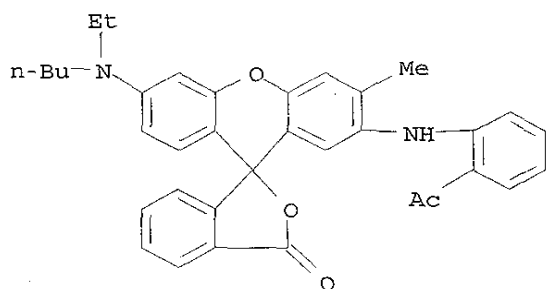
RN 88429-47-4 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2-acetylphenyl)amino]-6'-(dimethylamino)-4'-methyl- (9CI) (CA INDEX NAME)



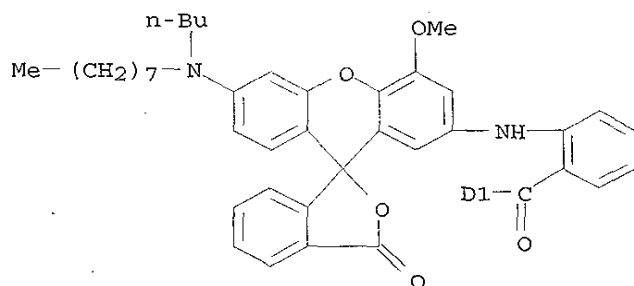
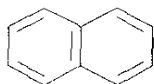
RN 88429-51-0 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2-acetylphenyl)amino]-6'-(butylethylamino)-3'-methyl- (9CI) (CA INDEX NAME)



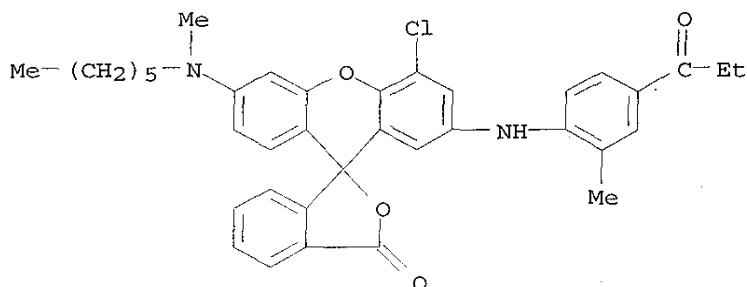
RN 88430-41-5 CAPLUS

CN Spiro[isobenzofuran-1(3H), 9'-[9H]xanthen]-3-one, 6'-(butyloctylamino)-4'-methoxy-2'-[[2-(naphthalenylcarbonyl)phenyl]amino]- (9CI) (CA INDEX NAME)



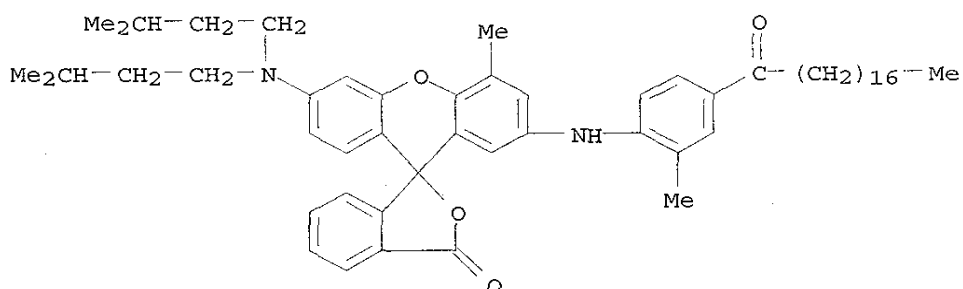
RN 88697-02-3 CAPLUS

CN Spiro[isobenzofuran-1(3H), 9'-[9H]xanthen]-3-one, 4'-chloro-6'-(hexylmethylamino)-2'-[[2-methyl-4-(1-oxopropyl)phenyl]amino]- (9CI) (CA INDEX NAME)



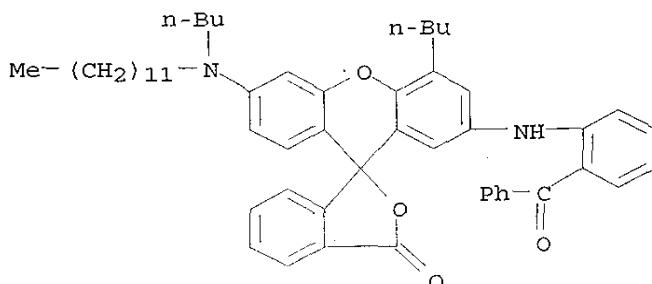
RN 88697-03-4 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 6'-[bis(3-methylbutyl)amino]-4'-methyl-2'-[[2-methyl-4-(1-oxooctadecyl)phenyl]amino]-(9CI) (CA INDEX NAME)



RN 88697-04-5 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2-benzoylphenyl)amino]-4'-butyl-6'-(butyldodecylamino)-(9CI) (CA INDEX NAME)



IC C09B011-28; B41M005-12

CC 41-5 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

KOROMA EIC1700

ST fluoran color former heat sensitive; heat sensitive recording color former; photosensitive fluoran color former; pressure sensitive copying paper fluoran

IT Dyes
(color formers, (acylanilino)amino fluoran derivs., for recording systems)

IT Copying paper
(pressure-sensitive, fluoran color formers for)

IT Recording materials
(thermal, fluoran color formers for)

IT 88429-44-1 88429-45-2 88429-46-3 88429-47-4
88429-48-5 88429-49-6 88429-50-9 88429-51-0 88429-52-1
88429-53-2 88430-41-5 88433-20-9 88690-49-7
88697-02-3 88697-03-4 88697-04-5

RL: USES (Uses)
(color formers, for recording materials, manufacture of)

IT 88429-18-9 88429-19-0 88429-20-3

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (hydroxybenzoyl)benzoic acid derivs.)

IT 5809-23-4 85448-87-9

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with diphenylamine derivs.)

L36 ANSWER 11 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1984:43139 CAPLUS

DOCUMENT NUMBER: 100:43139

TITLE: Fluoran derivatives and their use in recording systems

INVENTOR(S): Kondo, Mitsuru; Iwasaki, Hiroshi; Kanda, Nobuo;

Omatsu, Masayuki; Omura, Haruo

PATENT ASSIGNEE(S): Kanzaki Paper Mfg. Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 92 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 89752	A2	19830928	EP 1983-300943	19830223
EP 89752	A3	19850626		
EP 89752	B1	19880420		
R: CH, DE, FR, GB, LI				
JP 58145760	A2	19830830	JP 1982-30058	19820224
JP 02037359	B4	19900823		
JP 58147457	A2	19830902	JP 1982-31465	19820226
JP 58149952	A2	19830906	JP 1982-31543	19820227
JP 58180556	A2	19831022	JP 1982-64231	19820416
JP 58191753	A2	19831109	JP 1982-76972	19820506
JP 59066458	A2	19840414	JP 1982-178144	19821008
PRIORITY APPLN. INFO.:			JP 1982-30058	19820224
			JP 1982-31465	19820226

JP 1982-31543	19820227
JP 1982-64231	19820416
JP 1983-67632	19820421
JP 1982-76972	19820506
JP 1982-178144	19821008

AB Color formers which are useful in various recording systems (pressure-, photo- and heat-sensitive) and provide deep-black color images upon contact with an electron accepting acidic reactant comprise fluoran derivs. Thus, 62 parts of a pulverized mixture (average particle size 2 μ) of 3-diethylamino-6-methyl-7- α -naphthylaminofluoran 5, stearic acid amide 1, and 2% aqueous hydroxyethylcellulose 25 parts and 31 parts of a pulverized mixture (average particle size 2 μ) of 4,4'-isopropylidenediphenol 50, stearic acid amide 10, and 2% aqueous hydroxyethylcellulose 250 parts were mixed with Syloid 244 25, 20% aqueous salt of styrene-maleic anhydride copolymer 175, Zn stearate 5, and H₂O 100 parts and coated on a support at an amount of 6 g/m² to give a heat-sensitive recording material which was pressed with a pressure of 4 kg/m² for 5 s on a plate heated at 125° to provide a deep black image with a superior resistance to light-induced fading.

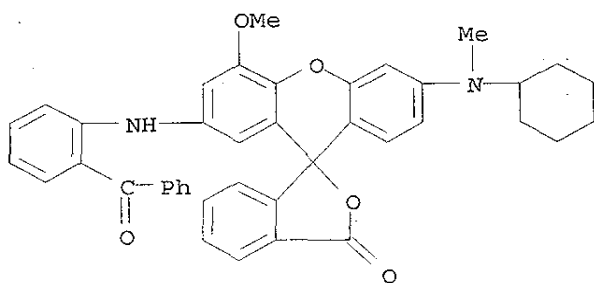
IT 88430-00-6P 88430-10-8P

RL: PREP (Preparation)

(preparation of, for photoimaging and recording)

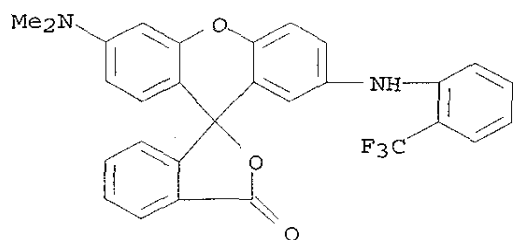
RN 88430-00-6 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[2-benzoylphenyl)amino]-6'-(cyclohexylmethylamino)-4'-methoxy- (9CI) (CA INDEX NAME)



RN 88430-10-8 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 6'-(dimethylamino)-2'-[[2-(trifluoromethyl)phenyl]amino]- (9CI) (CA INDEX NAME)



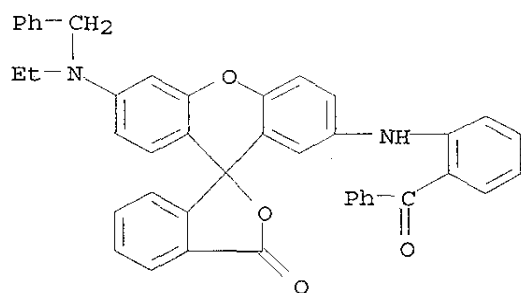
IT 88429-70-3P 88429-78-1P 88429-79-2P
88429-80-5P

RL: PREP (Preparation)

(preparation of, for recording and photoimaging)

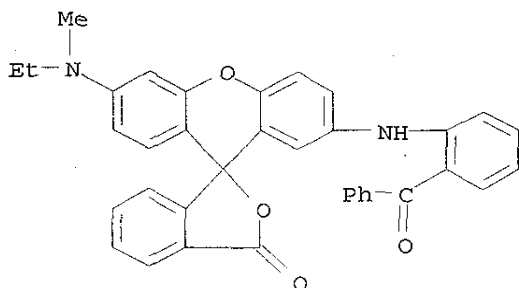
RN 88429-70-3 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2-benzoylphenyl)amino]-6'-[ethyl(phenylmethyl)amino]- (9CI) (CA INDEX NAME)



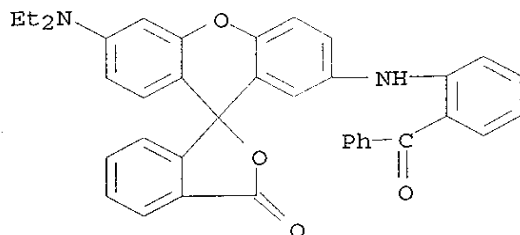
RN 88429-78-1 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2-benzoylphenyl)amino]-6'-(ethylmethylamino)- (9CI) (CA INDEX NAME)



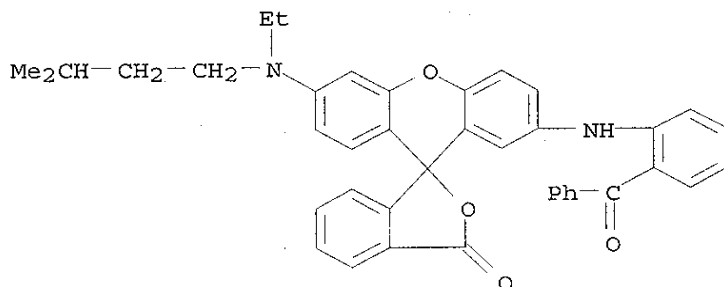
RN 88429-79-2 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2-benzoylphenyl)amino]-6'-(diethylamino)- (9CI) (CA INDEX NAME)



RN 88429-80-5 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2-benzoylphenyl)amino]-6'-[ethyl(3-methylbutyl)amino]- (9CI) (CA INDEX NAME)



IT 88429-46-3P 88429-47-4P 88429-51-0P

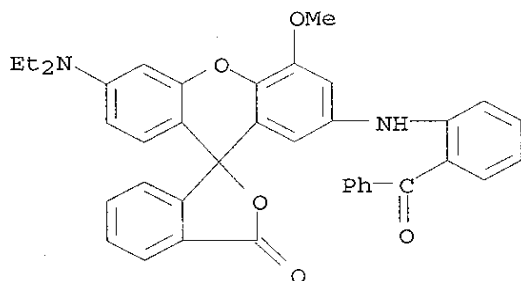
88429-54-3P 88430-41-5P

RL: PREP (Preparation)

(preparation of, for recording and photoimaging systems)

RN 88429-46-3 CAPLUS

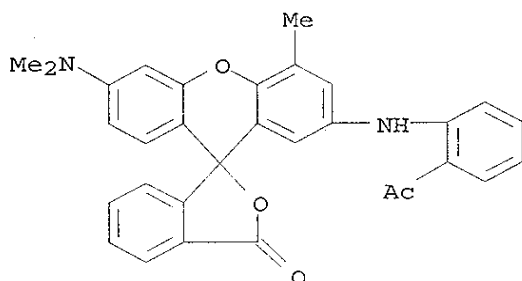
CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2-benzoylphenyl)amino]-6'-(diethylamino)-4'-methoxy- (9CI) (CA INDEX NAME)



RN 88429-47-4 CAPLUS

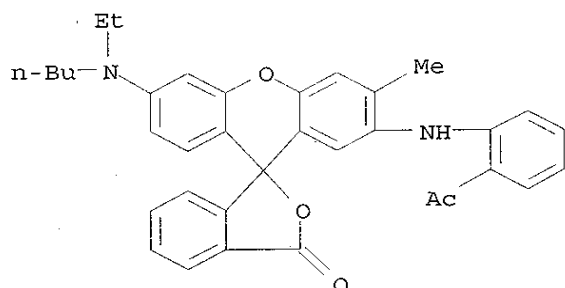
KOROMA EIC1700

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2-acetylphenyl)amino]-6'-(dimethylamino)-4'-methyl- (9CI) (CA INDEX NAME)



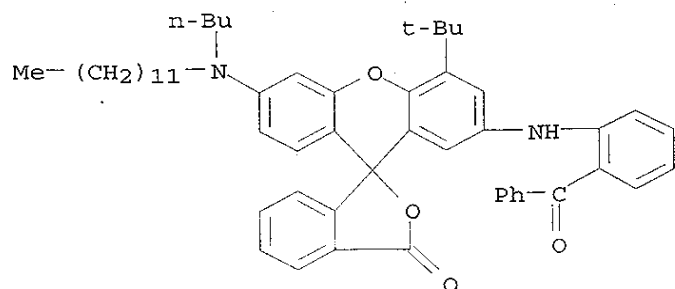
RN 88429-51-0 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2-acetylphenyl)amino]-6'-(butylethylamino)-3'-methyl- (9CI) (CA INDEX NAME)



RN 88429-54-3 CAPLUS

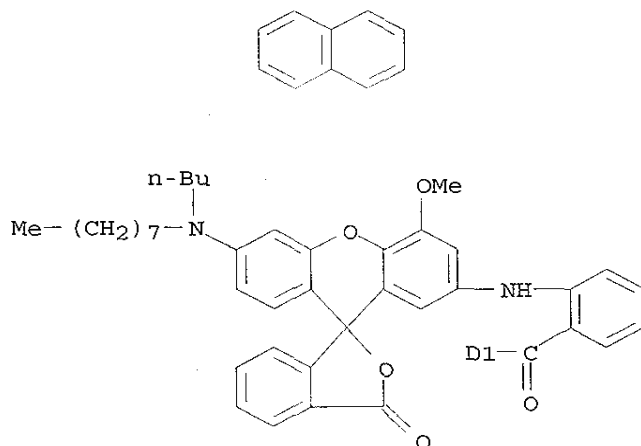
CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 2'-[(2-benzoylphenyl)amino]-6'-(butyldodecylamino)-4'-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



RN 88430-41-5 CAPLUS

KOROMA EIC1700

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 6'-(butyloctylamino)-4'-methoxy-2'-[[2-(naphthalenylcarbonyl)phenyl]amino]- (9CI) (CA INDEX NAME)



- IC C07D493-10; B41M005-00
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST heat pressure recording black image; thermal recording fluoran color former; chromogenic material fluoran copying; photoimaging recording fluoran color former; electrothermal recording fluoran color former
 IT Copying paper
 Photoimaging compositions and processes
 Recording materials
 (color formers for, fluoran derivs. as)
 IT Friedel-Crafts reaction catalysts
 (for condensation of benzophenone derivs. with aminophenol derivs.)
 IT Condensation reaction
 (of benzophenone derivs. and aminophenol derivs. in preparation of fluoran derivs. for photoimaging and recording)
 IT Recording materials
 (thermal, color formers for, fluoran derivs. as)
 IT 88429-32-7 88429-33-8 88429-34-9 88429-35-0 88429-36-1
 88429-37-2 88429-38-3 88429-39-4 88429-40-7 88429-41-8
 88429-42-9 88429-43-0 88433-19-6
 RL: USES (Uses)
 (color former, for photoimaging and recording systems)
 IT 88429-29-2
 RL: USES (Uses)
 (color former, for recording compns.)
 IT 88429-31-6
 RL: USES (Uses)
 (color former, for recording systems)

- IT 7664-93-9, uses and miscellaneous
RL: USES (Uses)
(condensation of benzophenone derivs. and aminophenol derivs. catalyzed by, in preparation of fluoran derivs. for photoimaging and recording)
- IT 119-61-9DP, derivs. 5809-23-4P 52007-93-9P 85448-87-9P 88429-13-4P
RL: PREP (Preparation)
(condensation with aminophenol derivs. in preparation of fluoran derivs. for photoimaging and recording systems)
- IT 88429-14-5
RL: USES (Uses)
(condensation with aminophenol derivs., in preparation of fluoran derivs. for photoimaging and recording systems)
- IT 122-39-4D, derivs. 123-30-8D, derivs. 134-32-7D, derivs.
36982-53-3D, derivs. 88429-23-6
RL: USES (Uses)
(condensation with benzophenone derivs., in preparation of fluoran derivs. for recording and imaging)
- IT 42530-36-9P
RL: PREP (Preparation)
(condensation with ethoxyacetyldiphenylamine in preparation of fluoran derivative color formers for photoimaging and recording)
- IT 88429-28-1
RL: USES (Uses)
(condensation with hydroxydibutylaminobenzoylbenzoic acid, in preparation of fluoran derivs., for photoimaging and recording)
- IT 85243-04-5 88429-16-7 88429-18-9 88429-19-0 88429-22-5
88429-23-6D, derivs. 88429-24-7
RL: USES (Uses)
(condensation with hydroxydiethylaminobenzoylbenzoic acid, in preparation of fluoran derivs. for photoimaging and recording)
- IT 88429-26-9
RL: USES (Uses)
(condensation with hydroxydiethylaminobenzoylbenzoic acid, in preparation of fluoran derivs., for recording and photoimaging)
- IT 88429-27-0
RL: USES (Uses)
(condensation with hydroxydimethylaminobenzoylbenzoic acid, in preparation of fluoran derivs. for photoimaging and recording)
- IT 88433-18-5
RL: USES (Uses)
(condensation with hydroxyethylbenzylaminobenzoylbenzoic acid, in preparation of fluoran derivs. for photoimaging and recording)
- IT 88429-20-3
RL: USES (Uses)
(condensation with hydroxyethylbenzylaminobenzoylbenzoic acid, in preparation of fluoran derivs., for photoimaging and recording)
- IT 88429-25-8
RL: USES (Uses)
(condensation with hydroxyethylmethylphenylaminobenzoylbenzoic acid, in preparation of fluoran derivs. for photoimaging)

IT 122-87-2
 RL: USES (Uses)
 (condensation with hydroxymethylbenzylaminobenzoylbenzoic acid, in preparation of fluoran derivs. for photoimaging and recording)

IT 88429-17-8
 RL: USES (Uses)
 (condensation with hydroxymethylhexylaminobenzoylbenzoic acid, in preparation of fluoran derivs., for photoimaging and recording)

IT 23689-01-2
 RL: USES (Uses)
 (condensation with hydroxypyrrolidinylbenzoylbenzoic acid, in preparation of fluoran derivs. for photoimaging and recording)

IT 24460-11-5
 RL: USES (Uses)
 (condensation with hydroxytrifluoromethyldiphenylamine, in preparation of fluoran derivs., for photoimaging and recording)

IT 49742-68-9
 RL: USES (Uses)
 (condensation with methoxyacetyldiphenylamine, in preparation of fluoran derivative color formers for photoimaging and recording)

IT 55109-91-6
 RL: USES (Uses)
 (condensation with methoxyhydroxybenzoyldiphenylamine, in preparation of fluoran derivs., for photoimaging and recording)

IT 88429-15-6
 RL: USES (Uses)
 (condensation with methylethoxyacetyldiphenylamine, in preparation of fluoran derivs. for photoimaging and recording)

IT 54574-82-2
 RL: USES (Uses)
 (condensation with methylethoxytrifluoromethyldiphenylamine, in preparation of fluoran derivs., for photoimaging and recording)

IT 7681-65-4 9002-89-5 13463-67-7, uses and miscellaneous
 RL: USES (Uses)
 (electrothermal recording material containing, color formers for, fluoran derivs. as)

IT 80-05-7, uses and miscellaneous 124-26-5 557-05-1 9004-62-0
 9011-13-6D, salt
 RL: USES (Uses)
 (heat-sensitive recording material containing, fluoran derivative color formers for)

IT 558-13-4 9003-53-6
 RL: USES (Uses)
 (photoimaging material containing, color formers for, fluoran derivs. as)

IT 88429-56-5P 88429-57-6P 88429-58-7P 88429-59-8P 88433-21-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and application of, as color former for recording and photoimaging)

IT 88429-81-6P 88429-82-7P 88429-83-8P 88429-84-9P 88429-85-0P
 88429-86-1P 88429-87-2P 88429-88-3P 88429-89-4P 88429-90-7P

88429-91-8P 88429-92-9P 88429-93-0P 88429-94-1P 88429-95-2P
88429-96-3P 88429-97-4P 88429-98-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and application of, for photoimaging and recording)
IT 85243-08-9P 88429-68-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and application of, for recording and photoimaging)
IT 596-24-7DP, derivs.
RL: PREP (Preparation)
(preparation of, as color formers for photoimaging and
recording)
IT 85443-44-3P 88429-99-6P 88430-00-6P 88430-01-7P
88430-02-8P 88430-03-9P 88430-04-0P 88430-05-1P 88430-06-2P
88430-07-3P 88430-08-4P 88430-09-5P 88430-10-8P
88430-11-9P 88430-40-4P
RL: PREP (Preparation)
(preparation of, for photoimaging and recording)
IT 88429-69-0P 88429-70-3P 88429-71-4P 88429-72-5P
88429-73-6P 88429-74-7P 88429-75-8P 88429-76-9P 88429-77-0P
88429-78-1P 88429-79-2P 88429-80-5P
RL: PREP (Preparation)
(preparation of, for recording and photoimaging)
IT 29578-91-4P 88429-44-1P 88429-45-2P 88429-46-3P
88429-47-4P 88429-48-5P 88429-49-6P 88429-50-9P
88429-51-0P 88429-52-1P 88429-53-2P 88429-54-3P
88429-55-4P 88429-60-1P 88429-61-2P 88429-62-3P 88429-63-4P
88429-64-5P 88429-65-6P 88429-66-7P 88429-67-8P 88430-41-5P
88433-20-9P 88433-22-1P
RL: PREP (Preparation)
(preparation of, for recording and photoimaging systems)
IT 88429-30-5P
RL: PREP (Preparation)
(preparation of, for recording systems)
IT 9003-55-8
RL: USES (Uses)
(pressure-sensitive recording material containing, color formers
for, fluoran derivs. as)
IT 53770-52-8
RL: USES (Uses)
(pressure-sensitive recording materials containing, color formers
for, fluoran derivs. as)
IT 88429-21-4
RL: USES (Uses)
(reaction with hydroxydiethylaminobenzoylbenzoic acid, in preparation of
fluoran derivs. for photoimaging and recording)
IT 102-50-1
RL: USES (Uses)
(reaction with hydroxydiethylaminobenzoylbenzoic acid, in preparation of
fluoran derivs., for photoimaging and recording)

L36 ANSWER 12 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1983:9949 CAPLUS

KOROMA EIC1700

DOCUMENT NUMBER: 98:9949
 TITLE: Sensitization of free-radical **photographic** materials by optical development
 AUTHOR(S): Shirakawa, Takashi
 CORPORATE SOURCE: Nippon Hoso Kyokai, Tokyo, Japan
 SOURCE: Giken Geppo (Nippon Hoso Kyokai) (1982), 25(3), 87-97
 CODEN: NHKGDR; ISSN: 0027-6561
 DOCUMENT TYPE: Journal
 LANGUAGE: Japanese

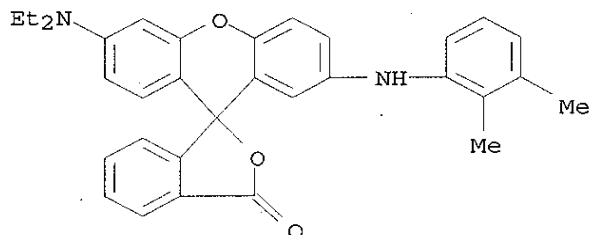
AB **Coloration** and sensitization mechanisms of free-radical **photog.** materials based on asym. fluoran derivs. and other similar compds. are exptl. and theor. investigated. The use of the free-radical **photog.** materials for electron-beam and laser recording processes were also considered.

IT 77946-11-3

RL: USES (Uses)
 (free-radical **photoimaging** materials containing, **coloration** and sensitization mechanisms of)

RN 77946-11-3 CAPLUS

CN Spiro[isobenzofuran-1(3H), 9'-[9H]xanthen]-3-one, 6'-(diethylamino)-2'-[(2,3-dimethylphenyl)amino]- (9CI) (CA INDEX NAME)



CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST free radical **photog** fluoran deriv; electron beam recording; laser recording free radical **photog**

IT Recording materials

(electron-beam, free-radical **photoimaging** materials as, **coloration** and sensitization mechanisms of)

IT Recording materials

(optical, laser, free-radical **photoimaging** materials as, **coloration** and sensitization mechanisms of)

IT	1249-97-4	1552-42-7	5339-80-0	21121-62-0	21934-68-9	24460-07-9
	24460-10-4	24460-39-7	29199-09-5	29512-46-7	29512-49-0	
	34342-67-1	34372-72-0	35517-39-6	35644-89-4	35783-51-8	
	35837-72-0	37608-71-2	37608-72-3	38660-35-4	42961-68-2	
	43038-92-2	52470-05-0	68506-98-9	77946-10-2	77946-11-3	
	77946-12-4	77946-13-5	77946-14-6	77946-15-7	77946-16-8	
	77946-17-9	77946-18-0	77967-37-4	83957-09-9		

RL: USES (Uses)

(free-radical **photoimaging** materials containing,

coloration and sensitization mechanisms of)

L36 ANSWER 13 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1981:415892 CAPLUS
DOCUMENT NUMBER: 95:15892
TITLE: Sensitization of free-radical sensitive materials by
optical development. Relation between optical
development characteristics and the molecular
structure of color former
AUTHOR(S): Shirakawa, Takashi; Miyazawa, Yoshihide
CORPORATE SOURCE: Tech. Res. Lab., NHK (Japan Broadcast. Corp.), Tokyo,
157, Japan
SOURCE: Nippon Shashin Gakkaishi (1981), 44(1), 30-46
CODEN: NSGKAP; ISSN: 0369-5662
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB Images of various colors can be optically developed in
free-radical photosensitive materials containing CBr4 and fluoran
derivs. as color formers. The optical development
characteristics and mol. structure of various fluorans are described along
with the effect of 3- and 7-amino groups on the fluorans and the d. of
protons produced during dye formation on the optical development
speed and color of the materials.

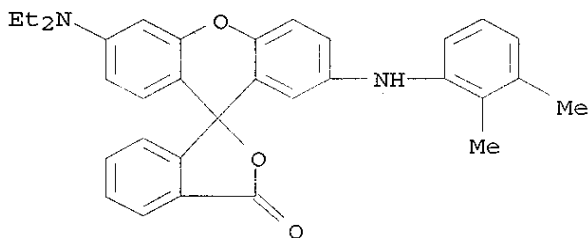
IT 77946-11-3

RL: USES (Uses)

(photoimaging compns. containing carbon tetrabromide and,
free-radical, optical development in)

RN 77946-11-3 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 6'-(diethylamino)-2'-
[(2,3-dimethylphenyl)amino]- (9CI) (CA INDEX NAME)



CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST fluoran free radical photoimaging; optical development free
radical photoimaging

IT Ultraviolet and visible spectra

(of fluoran derivs., use as color formers in free-radical
photoimaging compns. in relation to)

IT Nuclear magnetic resonance

(of fluoran derivs., use as color formers in free-radical
photoimaging materials in relation to)

IT Vinyl acetal polymers

RL: USES (Uses)

(butyrals, photoimaging compns. containing carbon tetrabromide, fluoran derivative color former, and, free-radical, optical development in)

IT Photoimaging compositions and processes

(free-radical, containing fluoran derivs. as color formers, optical development in relation to)

IT 1249-97-4 1552-42-7 5339-80-0 21121-62-0 21934-68-9 24460-07-9
 24460-10-4 24460-39-7 29199-09-5 29512-46-7 34342-67-1
 34372-72-0 35517-39-6 35644-82-7 35783-51-8 35837-72-0
 37114-79-7 37608-71-2 37608-72-3 38660-35-4 42961-68-2
 43038-92-2 52470-05-0 68506-98-9 77946-10-2 77946-11-3
 77946-12-4 77946-13-5 77946-14-6 77946-15-7 77946-16-8
 77946-17-9 77946-18-0 77946-19-1 77967-37-4

RL: USES (Uses)

(photoimaging compns. containing carbon tetrabromide and, free-radical, optical development in)

IT 9003-53-6

RL: USES (Uses)

(photoimaging compns. containing carbon tetrabromide, fluoran derivative color former, and, free-radical, optical development in)

IT 558-13-4

RL: USES (Uses)

(photoimaging materials containing fluoran derivs. and, optical development in)

L36 ANSWER 14 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1980:541030 CAPLUS

DOCUMENT NUMBER: 93:141030

TITLE: Phototropic photosensitive compositions containing fluoran colorformer

INVENTOR(S): Reardon, Edward Joseph, Jr.

PATENT ASSIGNEE(S): Dynachem Corp., USA

SOURCE: Eur. Pat. Appl., 78 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

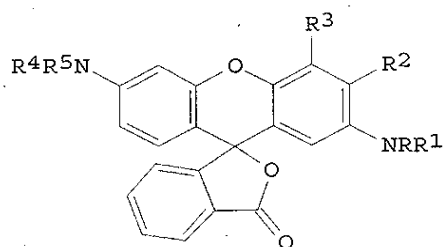
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 5380	A2	19791114	EP 1979-300796	19790509
EP 5380	B1	19820106		
EP 5380	A3	19791128		
R: BE, CH, DE, FR, GB, NL, SE				
CA 1164710	A1	19840403	CA 1979-326323	19790425
AU 7946768	A1	19791115	AU 1979-46768	19790504
AU 523542	B2	19820805		
JP 55013780	A2	19800130	JP 1979-56880	19790509
JP 63052369	B4	19881018		

KOROMA EIC1700

US 4343885	A	19820810	US 1980-195285	19801008
PRIORITY APPLN. INFO.:			US 1978-904145	19780509
			US 1979-97096	19791123

GI



I

AB Phototropic compns. containing a polymerizable, curable, or crosslinkable component, a photoinitiator, a fluoran color-former with the formula I (R,R1 = H, alkyl, alkenyl, alkoxyalkyl, alkoxycarboxylalkyl acyl, aryl, or together form a heterocycle; R2 = H, alkyl, alkoxy, halogen, amino, aryl, aryloxy; R3 = H, alkyl, alkoxy, amino, or the same as R,R1 above; R4, R5 are the same as R,R1 above), and latent activator that releases or promotes the release of a Lewis acid are described. These compns. are especially useful in the production

of dry film photoresists for use in the electronics industry to manufacture printed circuits. Thus, a typical composition contained Acryloid

A-101

60.3, trimethylolpropane triacrylate 19.6, tetraethylene glycol diacrylate 9.8, benzophenone 3.4, 2,2'-methylene bis(4-ethyl-6-tert-butyl)phenol 0.18, Modaflow 0.15, tricresyl phosphate 4.31, 4,4'-bis(dimethylamino)benzophenone 0.45, CBr3CONH2 1.51, I (R = Me; R1 = CH2CO2Et; R2, R3 = H; R4,R5 = Et) 0.3, and MeCOEt 195 parts by weight

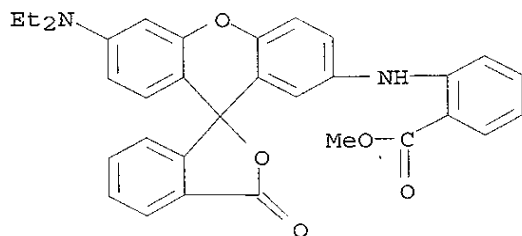
IT 29512-45-6

RL: USES (Uses)

(photoimaging composition containing, phototropic)

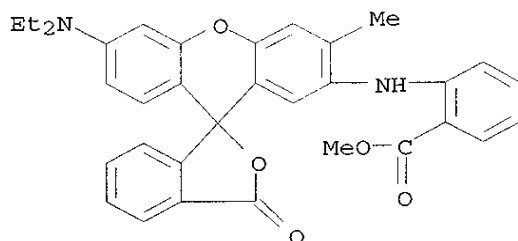
RN 29512-45-6 CAPLUS

CN Benzoic acid, 2-[[7'-(diethylamino)-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen-3'-yl]amino]-, methyl ester (9CI) (CA INDEX NAME)



KOROMA EIC1700

IT 72387-49-6
 RL: USES (Uses)
 (photoimaging compns. containing, phototropic)
 RN 72387-49-6 CAPLUS
 CN Benzoic acid, 2-[[6'-(diethylamino)-3'-methyl-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-2'-yl]amino]-, methyl ester (9CI) (CA INDEX NAME)



IC G03C001-68; G03C001-733; G03F007-02
 CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST phototropic photosensitive compn fluoran;
 color former fluoran photoimaging
 IT Acrylic polymers, uses and miscellaneous
 Epoxy resins, uses and miscellaneous
 RL: USES (Uses)
 (photoimaging compns. containing fluoran color-former
 and, phototropic)
 IT Urethane polymers, uses and miscellaneous
 RL: USES (Uses)
 (acrylate-terminated, photoimaging compns. containing fluoran
 color-former and, phototropic)
 IT Paraffin waxes and Hydrocarbon waxes, compounds
 RL: USES (Uses)
 (chlorinated, photoimaging compns. containing fluoran
 color-former and, phototropic)
 IT Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous
 RL: USES (Uses)
 (microcryst., photoimaging compns. containing fluoran
 color-former and, phototropic)
 IT Resists
 (photo-, dry-film, containing fluoran color formers)
 IT Photoimaging compositions and processes
 (phototropic, containing fluoran color formers)
 IT Electric circuits
 (printed, dry-film photoresist containing fluoran color
 -former in fabrication of)
 IT 21121-62-0 26206-78-0 26628-47-7 29512-44-5 29512-45-6
 29512-46-7 29512-49-0 29578-91-4 29579-01-9 34372-72-0
 35837-72-0 36838-72-9 55773-01-8 73852-07-0 73852-08-1
 73852-09-2 73852-10-5 73852-11-6 73852-12-7

RL: USES (Uses)

(photoimaging composition containing, phototropic)

IT 86-39-5 87-58-1 87-82-1 88-24-4 90-94-8 95-14-7 96-13-9
 98-86-2, properties 103-11-7 107-10-8, properties 108-01-0
 108-32-7 115-20-8 119-53-9 119-61-9, properties 121-44-8,
 properties 126-72-7 128-09-6 134-81-6 144-48-9 306-52-5
 486-25-9 492-22-8 515-84-4 530-44-9 558-13-4 594-47-8 594-65-0
 598-70-9 918-00-3 927-62-8 1124-05-6 1330-78-5 1529-68-6
 1675-54-3 2124-31-4 2223-82-7 2386-87-0 2436-77-3 2461-18-9
 2935-44-6 3524-68-3 5398-24-3 6175-45-7 6320-96-3 7575-23-7
 9011-14-7 9011-14-7 10287-53-3 12542-30-2 13048-33-4 13686-37-8
 14779-78-3 15081-02-4 15625-89-5 17831-71-9 22499-12-3
 23162-64-3 26672-67-3 29170-71-6 36355-01-8 36511-35-0
 37167-59-2 38800-47-4 40715-86-4 52016-01-0 53814-24-7
 54735-63-6 56927-95-8 66208-29-5 66208-30-8 73003-80-2
 73852-13-8 73852-14-9 73852-15-0 73882-79-8

RL: USES (Uses)

(photoimaging compns. containing fluoran color-former
 and, phototropic)

IT 50-29-3, properties 56-23-5, properties 57-15-8 67-72-1 75-03-6
 75-47-8 76-00-6 76-08-4 77-47-4 79-94-7

RL: PRP (Properties)

(photoimaging compns. containing fluoran color-former
 and, phototropic)

IT 29512-46-7 55772-81-1 72387-49-6 73852-16-1

RL: USES (Uses)

(photoimaging compns. containing, phototropic)

IT 24460-06-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)

(preparation and phenylation of)

IT 85-44-9

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with (hydroxyphenyl)pyrrolidine)

IT 49742-68-9

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with benzoanisidine)

IT 100-02-7, reactions 2835-99-6 61638-01-5

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with carboxydiethylaminohydroxybenzophenone)

IT 1008-97-5 17377-95-6

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with carboxyhydroxypyrrolidinylbenzophenone)

IT 88-65-3

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with fluoran derivs.)

IT 5809-23-4

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with nitrophenol)

IT 25912-16-7

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with phthalic anhydride)

L36 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1980:416984 CAPLUS

DOCUMENT NUMBER: 93:16984

TITLE: Carbonylic halides as activators for
phototropic compositions

INVENTOR(S): Reardon, Edward Joseph, Jr.; Lipson, Melvin A.

PATENT ASSIGNEE(S): Dynachem Corp., USA

SOURCE: Eur. Pat. Appl., 77 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 5379	A2	19791114	EP 1979-300795	19790509
EP 5379	B1	19811223		
EP 5379	A3	19791128		
EP 5379	B2	19860604		
R: BE, CH, DE, FR, GB, NL, SE				
CA 1153610	A1	19830913	CA 1979-326324	19790425
AU 7946767	A1	19791115	AU 1979-46767	19790504
AU 523499	B2	19820729		
JP 54147829	A2	19791119	JP 1979-56221	19790508
JP 63052368	B4	19881018		
US 4552830	A	19851112	US 1983-555444	19831125
PRIORITY APPLN. INFO.:			US 1978-904144	19780509
			US 1980-195168	19801008
			US 1981-317954	19811103

AB Compns., which are useful in the production of resists for use in the electronics industry to manufacture printed circuits, are composed of a polymerizable, curable, or crosslinkable component, a photoinitiator, a color former capable of changing color on contact with a suitable activator, and a latent activator containing an organic halide. The organic halide is a carbonyl compound, such as an

aliphatic or cycloaliph. ketone or an ester or amide of a decarboxylic acid. A typical composition for the production of a dry resist material contains a methacrylic acid-styrene (25:75) copolymer 57.0, trimethylolpropane triacrylate 24.0, tetraethylene glycol diacrylate 12.2, benzophenone 4.0, 4,4'-bis(dimethylamino)benzophenone 0.6, 2-anilino-3-methoxy-6-diethylaminofluoran 0.3, di-Et iodomaltonate 1.5, benzotriazole 0.4, and MeCOEt 160.0 parts kg weight. A dry resist using this composition is used to produce high quality printed circuit boards.

IT 29512-45-6 72387-49-6

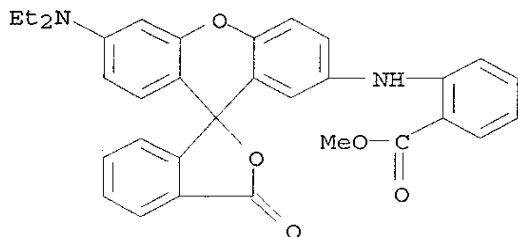
RL: USES (Uses)

(phototropic compns. containing halocarbonyls and, for dry photoresists)

RN 29512-45-6 CAPLUS

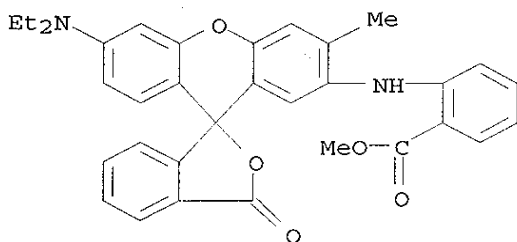
CN Benzoic acid, 2-[[7'-(diethylamino)-3-oxospiro[isobenzofuran-1(3H),9']-

[9H]xanthen-3'-yl]amino]-, methyl ester (9CI) (CA INDEX NAME)



RN 72387-49-6 CAPLUS

CN Benzoic acid, 2-[[6'-(diethylamino)-3'-methyl-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-2'-yl]amino]-, methyl ester (9CI) (CA INDEX NAME)



IC G03C001-68; G03C001-733; G03F007-02

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST phototropic compn dry photoresist; resist
photo dry phototropic compn; halocarbonyl dry
photoresist; amine dry photoresist; fluoran
color former dry photoresist

IT Soybean oil

RL: USES (Uses)

(epoxidized, polyacrylates, phototropic compns. containing, for
dry photoresists)

IT Acrylic polymers, uses and miscellaneous

RL: USES (Uses)

(phototropic compns. containing, for dry photoresist
production)

IT Amines, uses and miscellaneous

RL: USES (Uses)

(phototropic compns. containing, for dry photoresists)

IT Photoimaging compositions and processes

(phototropic, containing halocarbonyls and fluoran color
formers)

IT Epoxy resins, uses and miscellaneous

RL: USES (Uses)

(acrylate-terminated, phototropic compns. containing, for dry

KOROMA EIC1700

photoresist production)

IT Polyesters, uses and miscellaneous
(acrylated urethane-modified, phototropic compns. containing, for dry photoresists)

IT Carbonyl compounds, uses and miscellaneous
RL: USES (Uses)
(halo, phototropic compns. containing, for dry photoresists)

IT Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous
RL: USES (Uses)
(microcryst., phototropic compns. containing halocarbonyls, fluoran color formers and, for dry resists)

IT Resists
(photo-, phototropic compns. for production of dry)

IT Electric circuits
(printed, phototropic compns. containing halocarbonyls and fluoran color formers in fabrication of)

IT 2648-69-3 3200-96-2 21428-65-9 23162-64-3 29170-71-6 37167-59-2
69394-08-7 73003-80-2 73817-26-2 73817-82-0 73817-83-1
73817-84-2 73817-85-3 73817-86-4 73817-88-6 73817-89-7
73817-90-0 73817-91-1 73817-92-2 73817-93-3 73817-94-4
73817-95-5 73852-13-8
RL: USES (Uses)
(phototropic compns. containing fluoran color formers and, for dry photoresists)

IT 135-49-9 509-34-2 1325-85-5 1325-86-6 1332-85-0 2390-59-2
2412-14-8 3248-93-9 5385-11-5 6359-16-6 6359-45-1 6837-66-7
21121-62-0 26206-78-0 26628-47-7 29512-44-5 29512-45-6
29512-46-7 29512-49-0 29578-91-4 29579-01-9 34372-72-0
35837-72-0 36838-72-9 52080-58-7 55772-81-1 55773-01-8
66225-66-9 72387-49-6 73852-07-0 73852-08-1 73852-09-2
73852-10-5 73852-11-6 73852-12-7 73852-16-1
RL: USES (Uses)
(phototropic compns. containing halocarbonyls and, for dry photoresists)

IT 86-39-5 88-24-4 90-94-8 95-14-7 103-11-7 108-01-0 119-61-9,
uses and miscellaneous 134-81-6 486-25-9 492-22-8 1330-78-5
2223-82-7 3524-68-3 4986-89-4 7575-23-7 9010-92-8 9011-14-7
9011-14-7 12542-30-2 13048-33-4 15625-89-5 17831-71-9 25215-62-7
53814-24-7 54735-63-6 73882-79-8
RL: USES (Uses)
(phototropic compns. containing halocarbonyls, fluoran color formers and, for dry resists)

IT 90-94-8 107-10-8, uses and miscellaneous 108-01-0 110-97-4
121-44-8, uses and miscellaneous 530-44-9 927-62-8 2124-31-4
2436-77-3 10287-53-3 14779-78-3 26672-67-3 73852-14-9
RL: USES (Uses)
(phototropic compns. containing halocarbonyls, fluoran color formers, and, for dry photoresists)

IT 49742-68-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with amines)

IT 88-65-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with aminodiethylaminofluoran)

IT 24460-06-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with bromobenzoic acid)

IT 100-02-7, reactions 2581-34-2 2835-99-6 61638-01-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with carboxydiethylaminohydroxybenzophenone)

IT 1008-97-5 17377-95-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with carboxyhydroxypyrrolidinylbenzophenone)

IT 5809-23-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with phenols)

L36 ANSWER 16 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1978:451448 CAPLUS
 DOCUMENT NUMBER: 89:51448
 TITLE: Energy beam recording materials
 INVENTOR(S): Shirakawa, Takashi; Miyasawa, Yoshishige
 PATENT ASSIGNEE(S): Japan Broadcasting Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 52141633	A2	19771126	JP 1976-58255	19760520
JP 59050972	B4	19841211		

PRIORITY APPLN. INFO.: JP 1976-58255 19760520

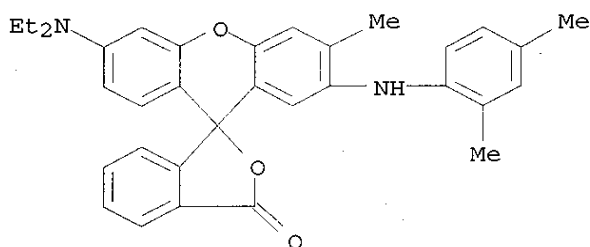
AB Energy-beam (such as light, electron beam, etc.) sensitive recording materials contain organic polyhalides as the sensitizers and fluoran derivs. as the color formers. The recording materials have good sensitivity and the images obtained can be intensified by uniformly exposing the materials to red light. The recording materials are useful for real-time recording of television images, and photointensified images have spectral characteristics useful for readout of the recorded images by the flying spot method. Thus, CBr₄ 2, 3-diethylamino-7-dibenzylaminofluoran 2, polystyrene 8 g and PhMe-Me₂CO (7:3 volume ratio) mixture 32 cm³ were mixed and the mixture was coated (7-μ dry) on a Nesa glass support. The recording material was irradiated with an electron beam (10⁻⁸ A/cm², 10 s) to form bluish green images, heated at 90°, and exposed to a 1-kW halogen lamp through a red filter and IR-absorber filter to intensify the images (dark reddish purple).

IT 36431-22-8
 RL: USES (Uses)
 (electron-beam recording material containing organic polyhalides and, for

real-time television image recording)

RN 36431-22-8 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 6'-(diethylamino)-2'-
[(2,4-dimethylphenyl)amino]-3'-methyl- (9CI) (CA INDEX NAME)



IC G03C001-727

CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST electron beam recording photointensification; fluoran polyhalide
electron beam recording

IT Recording

(electron-beam, composition containing fluoran derivs. and organic
polyhalides for)

IT 75-47-8 98-07-7 558-13-4

RL: USES (Uses)

(electron-beam recording material containing fluoran derivative and, for
real-time television image recording)

IT 24460-06-8 34372-72-0 35783-51-8 36431-22-8 66789-06-8
66789-07-9

RL: USES (Uses)

(electron-beam recording material containing organic polyhalides and, for
real-time television image recording)

L36 ANSWER 17 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1978:451409 CAPLUS

DOCUMENT NUMBER: 89:51409

TITLE: Optical and electron beam recording material

INVENTOR(S): Shirakawa, Takashi; Miyasawa, Yoshishige

PATENT ASSIGNEE(S): Japan Broadcasting Corp., Japan; Hodogaya Chemical
Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 52150618	A2	19771214	JP 1976-67059	19760610
PRIORITY APPLN. INFO.:			JP 1976-67059	19760610

KOROMA EIC1700

AB **Photointensifiable** radiation-sensitive **image** recording materials contain polyhalogen compound type sensitizers and fluoran derivative type **color** formers. Thus, a mixture of CBr₄ 2, 3-diethylamino-7-dibenzylaminofluoran 2, polystyrene 8 g, and PhMe-Me₂CO mixture (7:3 volume ratio) 37 cm³ was coated (7 μ dry) on a Nesa glass support to give a radiation-sensitive recording material. The material was irradiated with electron beam (10⁻⁸ A/cm², at 30 kV), for 10 s to give bluish green **images** which were subsequently intensified by uniform exposure to a red light to give dark red **images**.

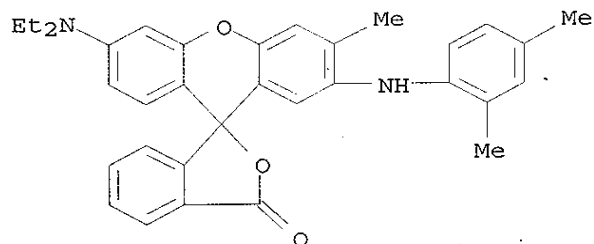
IT 36431-22-8

RL: USES (Uses)

(**color** formers, for **photointensifiable** radiation-sensitive recording material)

RN 36431-22-8 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 6'-(diethylamino)-2'-[(2,4-dimethylphenyl)amino]-3'-methyl- (9CI) (CA INDEX NAME)



IC G03C001-727

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST free radical **image** recording material; electron beam

image recording; fluoran **color** former **image**

recording

IT Recording

(electron-beam, radiation sensitive compns. for, containing organic polyhalo compound and fluoran derivative)

IT **Photoimaging** compositions and processes

(free-radical, containing polyhalo compound and fluoran derivative)

IT 29512-46-7 29512-49-0 34372-72-0 35783-51-8 36431-22-8

56278-75-2 59129-79-2

RL: USES (Uses)

(**color** formers, for **photointensifiable** radiation-sensitive recording material)

IT 75-47-8 98-07-7 558-13-4

RL: USES (Uses)

(sensitizer, for **photointensifiable** radiation-sensitive recording materials)

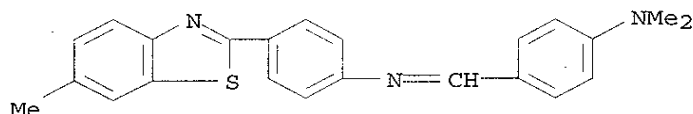
L36 ANSWER 18 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1960:54671 CAPLUS

DOCUMENT NUMBER: 54:54671

KOROMA EIC1700

ORIGINAL REFERENCE NO.: 54:10606f-g
 TITLE: Some classes of novel supersensitizers for 2,2'-cyanines
 AUTHOR(S): Brunner, R.; Graf, A.; Scheibe, G.
 CORPORATE SOURCE: Tech. Hochschule Munich, Germany
 SOURCE: Zeitschrift fuer Wissenschaftliche Photographie, Photophysik und Photochemie (1959), 53, 214-25
 CODEN: ZPPPAQ; ISSN: 0372-9788
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB Compds. of the type $XN:Y(CH:CH)_nZ$, where X is H, alkyl, or $C_6H_4NR_2$ (R = alkyl or aryl); Y is N or CH; n = 0, 1; Z is aryl or $C_6H_4NR_2$ (R = alkyl or aryl), including azo and azoxy compds., Schiff bases, and nitrones, were found to supersensitize 2,2'-cyanines. The efficiency of these compds. as supersensitizers is correlated with their being associated with mesomeric cationic structures. The compound p,p'-bis(dimethylamino)azoxybenzene supersensitized these dyes at concns. as low as 10^{-8} mole per mole AgBr and per 10^{-4} mole of sensitizer.
 IT 65175-38-4, Benzothiazole, 2-[p-(p-dimethylaminobenzylideneamino)p henyl]-6-methyl-
 (as photographic supersensitizer for 2,2'-cyanine dyes)
 RN 65175-38-4 CAPLUS
 CN Benzenamine, N,N-dimethyl-4-[[[4-(6-methyl-2-benzothiazolyl)phenyl]imino]m ethyl]- (9CI) (CA INDEX NAME)



CC 5 (Photography)
 IT Azo compounds
 Azoxy compounds
 Nitrones
 Schiff bases
 (as photographic supersensitizers for 2,2'-cyanine dyes)
 IT Photography
 (sensitizers (super-), for 2,2'-cyanine sensitizing dyes)
 IT 1H-Pyrrolo[1,2-a]quinolinium compounds, 3-(1-ethyl-2(1H)-quinolylidene)-2,3-dihydro-, iodide
 Aniline, N,N-dimethyl-p-phenylazo-
 Aniline, N,N-dimethyl-p-phenylazoxy-
 Benzothiazolium compounds, 2-[N-(p-dimethylaminophenyl)formimidoyl]-3-methyl-, iodide
 Piperidinium, 1-(p-dimethylaminobenzylidene)-, perchlorate
 Quinolinium, 1-ethyl-2-(3-ethyl-2-benzothiazolinyliidenemethyl)-, chloride
 (as photographic supersensitizer for 2,2'-cyanine dyes)

- IT 103-33-3, Azobenzene 138-89-6, Aniline, N,N-dimethyl-p-nitroso-
 495-48-7, Azoxybenzene 586-96-9, Benzene, nitroso- 614-00-6, Aniline,
 N-methyl-N-nitroso- 794-95-6, Aniline, 4,4'-azoxybis[N,N-dimethyl-
 889-37-2, Aniline, N',N'-dimethyl-N,4'-methyldynedi- 2596-90-9,
 Nitron, α -(p-dimethylaminophenyl)-N-phenyl- 2929-84-2,
 Benzaldehyde, p-dimethylamino-, oxime 3783-14-0, Rhodanine,
 5-[2-(3-ethyl-2-benzothiazolinyldiene)ethylidene]-3-phenyl- 10050-89-2,
 Aniline, 4,4'-(methyldynenitrilo)bis[N,N-dimethyl- 10205-56-8,
 Benzothiazole, 2-(p-dimethylaminophenyl)- 10595-51-4, Aniline,
 N-methyl-p-nitroso- 14135-03-6, Pyridinium, 2-[N-(p-
 dimethylaminophenyl)formimidoyl]-1-methyl-, iodide 15257-27-9,
 p-Phenylenediamine, N,N'-bis(p-dimethylaminobenzylidene)- 16089-69-3,
 Nitron, α -(p-dimethylaminophenyl)-N-methyl- 20766-49-8,
 Quinolinium, 1-ethyl-2-[(1-ethyl-2(1H)-quinolyldiene)methyl]-
 22756-37-2, Ammonium, (p-dimethylaminocinnamylidene)methylphenyl-,
 perchlorate 29785-93-1, m-Toluidine, N,N-dimethyl-4-nitroso-
 33981-24-7, Rhodanine, 5-(3-ethyl-2-benzothiazolinyldiene)-3-phenyl-
 65175-38-4, Benzothiazole, 2-[p-(p-dimethylaminobenzylideneamino)p
 henyl]-6-methyl- 102011-34-7, p-Phenylenediamine, N'-(p-
 dimethylaminocinnamylidene)-N,N-dimethyl- 104996-53-4, 1-Naphthylamine,
 N,N-dimethyl-4-nitroso- 109595-70-2, Nitron, N, α -bis(p-
 dimethylaminophenyl)- 113059-40-8, Rhodanine, 5-[4-(3-ethyl-2-
 benzothiazolinyldiene)-2-butenylidene]-3-phenyl-
 (as photographic supersensitizer for 2,2'-cyanine
 dyes)
- IT 6257-64-3, Aniline, 4,4'-azobis[N,N-dimethyl-
 (preparation of)

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